

Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Stories of the Week
Thoughts for the Week
**Bird Watchers Society,
Attention!**
Recipe for Success
**Outer Space,
Here We Come**
Exciting Days Ahead
Quote of the Week
Final Smiles

Stories of the Week

Student in a medical psychia-
try class probed his professor:

"Doctor, all we've been learn-
ing here is abnormal psychology.
What can we, as medical ad-
visors, do to keep a normal man
or woman normal?"

"If we ever find a normal
man," grim-lipped the psychia-
trist, "we'll cure him."

"You think you're a sales-
man," objected man in a barber
chair. "Trying to sell me hair
tonic when YOU are bald."

"Okay, buddy, have it your
own way," the barber shrugged.
"I gotta nother customer whose
a salesman. He's a man; but he
sells brassieres."

In all history, only one man
ever got his week's work done
by Friday. That was Robinson
Crusoe.

Thoughts for the Week

One secret of success is to be
able to put your best foot for-
ward without stepping on any-
body's toes.—J. KRALL.

There is a lot more begging
done on expensive letterheads
than with tin cups.—DAN BEN-
NETT.

Of all the gifts God made to
man, laughter is one of the
rarest, subtlest, and most pre-
cious. It has neither nationality,
politics, nor religion. As an
equalizer, it has no equal. Even
science, which can do so many
things, can't teach us to laugh.
Mirth is from God, dullness
from the devil. When we laugh
we agree with God that all is
good.—EUGENE P. BERTIN.

Bird Watchers Society, Attention!

There's not much you as a
user can do about altering the
essential nature of a window air
conditioner. But a bird can.
That is, if the top of your air
conditioner is converted into an
attractive bird feeding platform.

Who figured out this bizarre
idea? Contributor James Duvall
of Baytown, Texas.

(Concluded on Page 10, Col. 1)

Unselfishly Gallant Victory for Ethical Sales Practices

(Conscience of the Industry Editorial by George F. Taubeneck)

GOOD NEWS for consumers, and for the future of
the entire air conditioning industry, is being digested
currently. Initial comments from contractors and consulting
engineers all over the country (about this particular
GOOD NEWS) indicate relief and heartfelt approval.

About what? Performance standards!

You see, after long and sometimes discouraging nego-
tiation, more than two dozen of the nation's leading air
conditioning manufacturers have signed contracts with the
Air-Conditioning & Refrigeration Institute to participate in
a "certification program."

This means, in short, they will rate (and advertise)
their products honestly.

From now on, the public can be guaranteed, a packaged
air conditioner which proudly wears a "seal of certification"

(Concluded on Page 12)

* * *

ARI Begins Distribution of First Edition Of Certified Unitary Conditioner Ratings

WASHINGTON, D. C. —Dis-
tribution of the first edition of
the "Directory of Certified Unitary
Air-Conditioners" was begun
recently by Air-Conditioning &
Refrigeration Institute as a part
of the unitary air conditioner
certification program initiated
several months ago by ARI in
cooperation with the National
Warm Air Heating & Air Con-
ditioning Association.

The directory is being sent to
dealers and contractors through-
out the country, to architects
and consulting engineers, and to
government personnel concerned
with air conditioning at na-

tional, state, and local levels.

It is being made available to
the public through the dealer
and contractor outlets of the 31
participating companies, which
produce more than 80% of all
the unitary equipment manu-
factured in the U. S., according
to the ARI.

The directory will also be dis-
(Concluded on Page 25, Col. 1)

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Charleston Board Grants Warm Air Contractor Licenses To 28 Firms

CHARLESTON, W. Va. —
Twenty-eight firms have thus
far been granted contractor
licenses under the warm air
heating code adopted here last
fall.

This is the first city in the
state to adopt such a code,
which provides for licensing of
installers, permits for installa-
tions, inspections, and requires
that warm air systems be in
accord with the local building
code and the National Building
Code as recommended by the

National Board of Fire Under-
writers.

Setting up of local controls
in the form of the code was one
of the main objectives of the
Charleston Warm Air Contrac-
tors Association, which was
first organized in 1955.

Under the code licenses are
required for individuals or firms
engaged in "installing, altering,
repairing, cleaning, or adding
to any warm air heating sys-
tem" in the city. Firms are

(Concluded on Page 25, Col. 2)

More Than 450 Will Exhibit At Philadelphia Exposition

PHILADELPHIA—More than 450 exhibits of heating,
ventilating, and air conditioning equipment, accessories,
and parts will make the 14th International Heating & Air
Conditioning Exposition the greatest display in its field
ever held on the Atlantic seaboard.

To be held in Philadelphia's Convention Hall from
Monday through Thursday, Jan. 26-29, the exposition will far

Copies of the 1959 AIR
CONDITIONING AND REFRIGER-
ATION DIRECTORY will be dis-
tributed free-of-charge at Ex-
hibit Space No. 4 at the
International Heating & Air
Conditioning Exposition,
which space will be occupied
by AIR CONDITIONING, HEAT-
ING & REFRIGERATION NEWS.

This Directory, a 365-page
handy sized book, has been
the standard of the industry
since 1932, listing and classi-
fying the products of all the
manufacturers of equipment,
parts, and supplies.

Extra copies of the Jan. 26
Special Show Issue of AIR
CONDITIONING, HEATING &
REFRIGERATION NEWS, will
also be distributed.

surpass the last air condition-
ing show there four years ago,
according to E. K. Stevens, ex-
(Concluded on Page 25, Col. 4)

Westinghouse Cooling Billings Up over 21%

STAUNTON, Va.—Gross sales
billings of Westinghouse pack-
aged and applied air condition-
ing equipment for the five-
month period ending Dec. 31
were up 21% over the corre-
sponding period in 1957, R. K.
Serfass, air conditioning divi-
sion manager, has announced.
In addition, the company's 1958
sales bettered those of 1957.

"It is significant that sales
billed for each of these last
five months were better than
previous record highs for cor-
responding months in Westing-
house Air Conditioning Div. his-
tory," added Serfass. "Although
each of the past five months'
sales were record-breaking, the
most outstanding were Septem-
ber sales—45% over billings in
any previous September.

The Staunton plant manufac-
tures heating and air condition-
ing equipment for residential,
commercial, and industrial use.
Recently, the manufacture of
residential electric heating prod-
ucts was transferred to Staun-
ton from the Westinghouse
plant at Sunnyvale, Calif.

Remington Bows 'Entirely New' Room Units

AUBURN, N. Y.—The Rem-
ington 1959 line of window type
room air conditioners, as un-
veiled at the 1959 sales confer-
ence held here recently, will
have 11 different models "which,
because of the fact that Rem-
ington Corp. had no carry-over
of 1958 production, will all be
entirely new," the company an-
nounced.

In addition to the 11 window
units, the 1959 Remington line
will also include four new
models of the "Wall-Way" series
"in the wall and out of the
way" air conditioners, rated at
1, 1.25, 1.75, and 2 hp., respec-
tively; water-cooled "Consol-
aires" in 1 and 1½ hp. sizes;
and a ½-hp. "Moisture Magnet"
dehumidifier.

"Not only will our 1959 line
feature reduced noise level,
across the board, but consistent
with the announcement made by

(Concluded on Page 25, Col. 1)

Dependable Prescription for Refrigeration & Air Conditioning Equipment

Always Specify
R_x READING
Copper Tubing

Made by Copper Tube SPECIALISTS

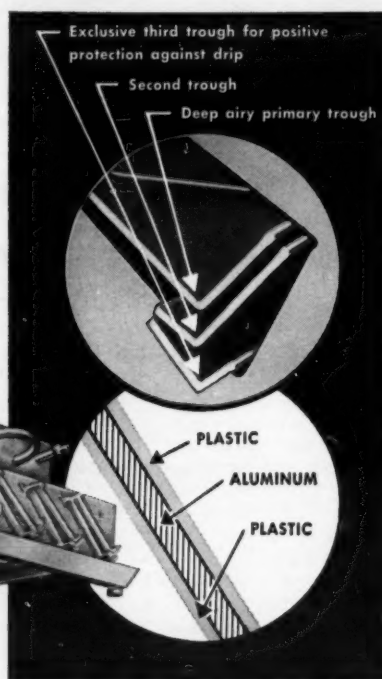
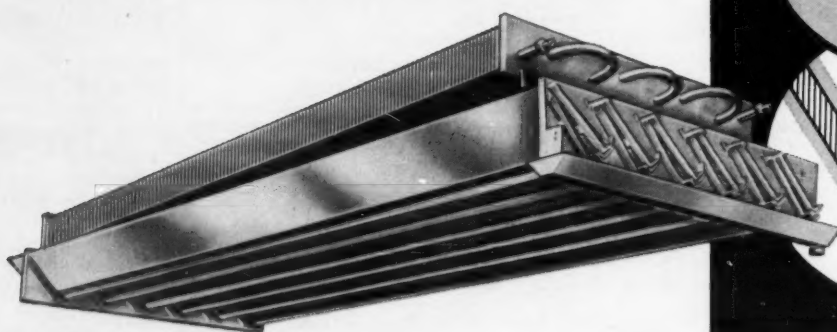


READING TUBE CORPORATION

EMPIRE STATE BUILDING NEW YORK 1, N. Y.

WORKS: READING, PA.

NEW KRAMER COIL and BAFFLES



with attractive lifetime
PLASTIC CLAD ALUMINUM
at no extra cost!

Permanently Attractive Baffle—Constructed of a new plastic-clad aluminum which combines the strength and flexibility of aluminum with corrosion-resistant plastic for lifetime beauty. It will not chip, peel, corrode, sag, fade nor get brittle. It is absolutely odorless and sanitary. The coil with its colorful baffle will retain its attractive appearance for the life of the cooler.

Dripless Triple-Trough Design—The triple-trough—a unique Kramer feature—provides a deeper primary trough for unrestricted draftless circulation of cool air. The narrow third trough reduces dripping to a minimum, making the Kramer triple-trough baffle virtually drip-proof.

Easy to Install—Kramer coil and baffle combinations are completely assembled at the factory. Shipped in closed wooden cases, they arrive on the job clean and ready for installation, saving assembly and installation time.

Immediate Shipment—A complete range of 15 carefully selected sizes giving maximum Btu per dollar for every application are carried in stock for immediate shipment. Both left-hand and right-hand baffles are available.

WRITE FOR BULLETIN CBC-276C

KRAMER TRENTON CO. • Trenton 5, N.J.

44 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

Formation of Industrial Division Announced by American-Standard

NEW YORK CITY—Formation of an Industrial Div. by American-Standard has been announced by Joseph A. Grazier, president.

The new division was created by the consolidation of the American Blower, Kewanee Boiler, and Ross Heat Exchanger divisions.

The Industrial Div. will continue to manufacture and market the same products made by the three separate divisions. Among these are air handling and air conditioning equipment, commercial and industrial boilers, "Fluid Drives," heat exchangers, and surface condensers.

Division factories are located in San Leandro, Calif.; Columbus, Ohio; Dearborn, Mich.;

Kewanee, Ill.; and Buffalo.

President of the Industrial Div. is John W. Brennan, formerly president of the American Blower Div. He will maintain offices at division headquarters in Detroit. Other division executives include:

Richard S. Reade, vice president, manufacturing (formerly president, Ross Heat Exchanger Div.); Elbert M. Palmer, vice president, customer relations (formerly president, Kewanee Boiler Div.); Edwin W. Petersen, vice president, marketing; Richard L. Bernhard, vice president, engineering; Townsend Tinker, vice president, technical development; Wells A. Gardner, vice president, works manager; Albert O'B. Andrews, vice president, controller.

Also appointed were Donald L. Clithero, general sales manager, and Howard C. Rollert, director of industrial relations.

The field sales organization consists of a network of 14 sales regions covering the United States and 168 sales outlets—including branch offices and agents. Regional managers and headquarters cities are:

Harley W. McClure, Boston; Joseph A. McCain, New York City; John A. Bishop, Dallas; Robert G. Schreiner, Cincinnati; George G. Waters, Pittsburgh; Graeme B. Supple, Detroit; John F. Tobin, Chicago; George M. Kendrick, Minneapolis; Carl Clegg, Kansas City, Mo.; Carl S. Becker, Denver; John V. Spainhower, San Francisco; Paul Wilcox, Los Angeles; Harold H. Hill, Washington, D. C.; William J. McKinney, Atlanta. American-Standard, in addition to the Industrial Div., has eight other operating divisions within the U. S.

Emerson Electric Acquires Imperial Lighting Products

ST. LOUIS—Emerson Electric Mfg. Co. has acquired Imperial Lighting Products Co. of Latrobe, Pa., it was announced by W. R. Persons, Emerson's president.

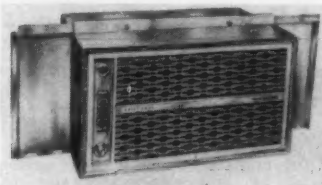
The acquisition, the result of a stock trade, will add an annual sales potential of about \$6 million to Emerson Electric, he said. The new company, a wholly-owned subsidiary of Emerson Electric, will be known as Emerson-Imperial Lighting Co.

Imperial manufactures indoor and outdoor lighting fixtures, both residential and commercial. About 300 persons are employed in the company's 100,000-sq. ft. plant, which is about 50 miles from Pittsburgh.

Dallas Contractors Elect Kilpatrick

DALLAS—Bob Kilpatrick is the new president of the Dallas Air Conditioning & Refrigeration Contractors Association, succeeding Bill Steinkle.

Other new officers: Travis Parker, vice president, and Mack Dring, secretary-treasurer.



NEW Kool-Mount Room Air Conditioner by Emerson Radio & Phonograph Corp.

Emerson Kool-Mount Requires No Tools, No Alterations

NEW YORK CITY—A new "instantaneous self-sealing window mounting design" was announced by Emerson Radio & Phonograph Corp., manufacturer of "Quiet Kool" air conditioners, at a distributor meeting held in the Grand Ballroom of the Hotel New Yorker.

The new "Kool-Mount" requires no tools, no alteration of window sills, and no cutting of side panels for installation, it was stated. All that is necessary is to place the Kool-Mount in the window, extend the rigid metal self-sealing side panels contained within the unit itself, plug it in and turn it on, the company said.

The Kool-Mount series will be available in 6,500, 8,000, and 10,000 B.t.u. capacities, the announcement said.

"In keeping with the automatic mounting design, a number of additional features have been incorporated into the new Kool-Mount series to permit simplified operation," it was stated.

'ROBOT CONTROL PANEL'

"The Robot Control Panel," at the push of a button, instantly accomplishes each air conditioning function, even the opening and closing of the damper. The permanent slide-out filter can easily be removed for cleaning without disassembling the front panel, and a two-speed motor drives two blower wheels for quieter operation."

Emerson also introduced a new "Tru-Slim" air conditioner with 1½ hp. 12,500 B.t.u. and 2 hp. 15,000 B.t.u., it was reported.

A feature of this series, the company said, "is the compactness of physical size in relation to the high cooling capacities of these models. The depth of this unit is only 17¾ in. and it is designed for quick installation in any of four different positions in almost any window."

Emerson announced the following data on its 1959 line:

"PICK-UP" SERIES

| Model | B.t.u. | Hp. | Volts |
|-------|--------|-----|-------|
| 500 | 3,650 | ¼ | 115* |

"KOOL-MOUNT" SERIES

| Automatic Window Mount | | | |
|------------------------|--------|---|------|
| 6U7-A | 6,500 | 1 | 115* |
| 8U1-A | 8,000 | 1 | 115† |
| 10U2-A | 10,000 | 1 | 230 |
| 10U8-A | 10,000 | 1 | 208 |
| 8U2-A | 8,000 | 1 | 230 |
| 8U8-A | 8,000 | 1 | 208 |

"KOOL-MOUNT" SERIES

| Standard Window Mount | | | |
|-----------------------|--------|---|------|
| 6U7-S | 6,500 | 1 | 115* |
| 8U1-S | 8,000 | 1 | 115† |
| 10U2-S | 10,000 | 1 | 230 |
| 10U8-S | 10,000 | 1 | 208 |
| 8U2-S | 8,000 | 1 | 230 |
| 8U8-S | 8,000 | 1 | 208 |

TRU-SLIM" SERIES

| | | | |
|------|--------|----|-----|
| 15T2 | 12,500 | 1½ | 230 |
| 15T8 | 12,500 | 1½ | 208 |
| 20T2 | 15,000 | 2 | 230 |
| 20T8 | 15,000 | 2 | 208 |

*7.5 amps.
†12 amps.

Dan Packard Tells Why '59 Looks Good

JACKSON, Mich.—1959 will see a different business climate among major appliance distributors and retailers than has prevailed in the past several years, predicts Dan Packard, vice president and marketing director of Geyer Advertising, Inc.

Two things have happened to change it, he told field representatives for Coolerator Div., McGraw-Edison Co. here.

First, Department of Justice men have been prowling around large appliance distributorships and factory branches checking pricing practices for possible violations of the Robinson-Patman Act.

The attitude of distributors representing the larger companies has changed fast in the last six months, he asserted, because these companies do not want to get in trouble with the government.

Secondly, many big dealers who in recent years have tossed away their franchises are learning that they are not doing as well as they had expected. They are finding that the best success stories are made by dealers who have stuck by a good franchise.

These dealers are now ready to listen to a good franchise story, Packard believes.

For many, the day is past when the first and last thing the dealer wanted to hear about is price.

Packard also told the Coolerator organization that we may be on the threshold of a new era in selling. Now that most people have the necessities plus many of the conveniences, they are ready to acquire the comforts of living. That means better heating, cooling, and air treatment appliances, he said.

NEW Admiral "Ruler" room air conditioner is said to be attractively priced for American family income brackets and has many advantages which the homeowner will appreciate. It is only 13-5/16 in. high and 12 in. deep, with no overhang outside or inside the window; no protruding knobs interfere with draperies or curtains or blinds. The unit is small, compact, and lightweight to afford winter storage, leaving the window free during all non-hot seasons.



Gibson Boosts Production Rates over December

CHICAGO—C. J. Gibson, Jr., president of Gibson Refrigerator Co., announced here that the company has boosted production of room air conditioners by 27% and of refrigerators and freezers by 23% over the December production rates.

Increased orders for immediate delivery by distributors and dealers made the action necessary, he said. Production of refrigerators and freezers has now been boosted 47% over the production rates of these products in October, when they were introduced, Gibson pointed out.

extra pure
extra dry
guaranteed weight

FIRST

in factory-sealed containers!

PENNSALT ISOTRON® REFRIGERANTS

Why take chances when you can get guaranteed purity, dryness and weight with Pennsalt Isotron, the original factory-sealed refrigerants? Isotrons are produced in the nation's most modern fluorinated refrigerants plant to rigid specifications that surpass all accepted industry standards. Isotron cylinders are packed and sealed by Pennsalt to guarantee you full weight and freedom from contamination. Play it safe—look for the Isotron seal!

Call or write for more information. Isotron Department 679, Pennsalt Chemicals Corporation, Three Penn Center, Philadelphia 2, Pa.

ISOTRON Refrigerant 11 (CCl₃F)
ISOTRON Refrigerant 12 (CCl₂F₂)
ISOTRON Refrigerant 22 (CHClF₂)
ISOTRON Refrigerant 113 (CCl₂F-CClF₂)
ISOTRON Refrigerant 114 (CClF₂-CClF₂)

ISOTRON
THE KEY TO MODERN LIVING



Aluminum Plastic Panel Simplifies Design

PITTSBURGH—A new panel construction component, said to offer "strength, light weight, highly efficient insulation, and economical workability," was commercially unveiled recently by Aluminum Co. of America and Westinghouse Electric Corp.

The panel, which consists of expanded plastic beads "sandwiched" between sheets of aluminum, has been under development for two years by Alcoa.

It offers "less costly and heretofore impossible simplification" in the design and construction of appliances and a host of other uses, according to Alcoa.

Westinghouse announced the marketing of two refrigerator models, constructed almost entirely from the new material.

One model is a horizontal, 13-cu. ft. refrigerator-freezer which

MADE BY A NEW PROCESS that permanently bonds the aluminum inner lining and exterior cabinet to the polystyrene insulation is a new 5-cu. ft. refrigerator (left) by Westinghouse. The flat panels formed by this process are notched by ordinary saws and folded into the shape of a refrigerator.



EXPERIENCE

makes the big difference...

**National Lock offers
25 years of practical
applications in the
PLASTIC
molding field**

When experience really counts, you can depend on the engineering and production resources of National Lock Company. For 25 years, National Lock has been an important supplier in the plastics molding field. Today, it produces both thermoplastic and thermo setting plastics... everything you need in economical, top quality compression or injection moldings. What's more, experienced engineers plus modern facilities provide an extensive product and tool design service to meet your specific requirements. Write for complete details today.

QUALITY HARDWARE

*all from
1 source*

- standard and special-purpose fasteners
- latches and handles
- pulls and knobs
- range and refrigerator hardware
- butts and hinges
- locks

NATIONAL LOCK COMPANY

ROCKFORD, ILLINOIS
PLASTICS DIVISION

can serve as a built-in or counter-top unit. The second refrigerator is a free-standing, 5-cu. ft. executive model.

The new refrigerators are lighter than conventional models and promise substantial cost reductions when fabricated on a production-line basis.

"Use of the panel requires only minor production tooling, which reduces tooling expense and allows complete flexibility in refrigerator design."

Alcoa has named its new product "Alply."

"The 'sandwiching' of the foam core between sheets of aluminum develops a panel which possesses high strength, stiffness, and dimensional stability," the announcement said.

"Core material is produced from expandable polystyrene beads. The beads form a white, opaque, and odorless foam material. It has no food value for plant or animal life. It also is nontoxic and self-extinguishing.

"Finish possibilities for the panel's aluminum skin are limitless. It can be textured, formed, and colored by a variety of methods to achieve any desired decorative effect."

Alcoa states that, with its new methods of production, the panel will be made in widths up to 4 ft., and in unlimited lengths. Thicknesses range from 1 to 6 in.

Knoff, Bard In New Jobs

ATLANTA — J. F. Knoff, former vice president, sales, with Airtemp Div. of Chrysler Corp., has purchased an interest in the Peachtree Plymouth automobile dealership in Atlanta and will become president.

DAYTON — Appointment of Malcolm T. Bard as vice president of Rubber-Seal Products Co., Inc. was announced by Roy T. Ellis, president.

Bard was formerly associated with Chrysler Corp. and General Electric Co. in executive capacities.

Rubber-Seal produces waterproof mastics, rubber cements, liquid rubber, adhesives, and special caulking compounds for the air conditioning and other industries.

Dunham-Bush Plans New Compressor Line, Other Items Later In '59

WEST HARTFORD, Conn.— \$407,000 on sales of \$32,225,700. Late in 1959, Dunham-Bush, Inc. will start production on a new line of compressors for refrigeration and air conditioning, Cecil Boling, president, told stockholders in his annual report.

Other new products planned for 1959 include a line of packaged air conditioners from 10 through 30 tons, a line of gas driven refrigeration compressors, a line of electric baseboard heating units, and two-stage, semi-hermetic compressors.

Boling announced that net earnings for the fiscal year ended Sept. 30, 1958 amounted to

This compared with net earnings of \$909,700 on sales of \$26,357,300 in 1957. The 1957 figures did not include all Brunner operations which were acquired in the middle of the year.

"Net profit was lower than normal," Boling explained, "first because of the general business recession and second because of the cost of consolidating plant facilities which involved sizable direct moving costs, plus lower production during the moving operations."

Working capital as of Sept. 30, 1958 was \$8,374,800 as compared with \$7,813,900 for the previous year.

Welbilt Will Market Home Heating, Cooling System To Install for \$1,000

CHICAGO—Welbilt Corp. expects to market by the third quarter of this year an integrated home heating and air conditioning system than can be installed at a cost of \$1,000.

Alexander P. Hirsch, chairman of Welbilt's board, made this announcement at the National Association of Home Builders Show here. This will enable builders to install combination heating and cooling units in homes priced as low as \$10,000, he declared.

The new system is made possible through the recent acquisition by Welbilt of Consolidated Industries, Inc. of Lafayette, Ind., Hirsch declared.

He asserted that Welbilt's current backlog of unfilled orders for room air conditioners and domestic gas ranges is valued at about \$8 million.

He said this was up sharply from the \$1.5 million backlog at the end of 1957.

Hirsch indicated that while 1958 sales were down about 4% from 1957—at slightly over \$19 million, profits are up considerably. This is due to cuts in manufacturing costs made possible by recently modernized facilities. Profits for 1958 should be about \$550,000 as compared with \$186,608 in 1957.

Welbilt is negotiating to acquire two companies within its own field of distribution, Hirsch said. He pointed out that Welbilt's sales are divided 60% in domestic gas ranges and 40% in room air conditioners and commercial ranges.

During 1958, Welbilt spent more than \$2 million for additional plant space and new tools and dies.

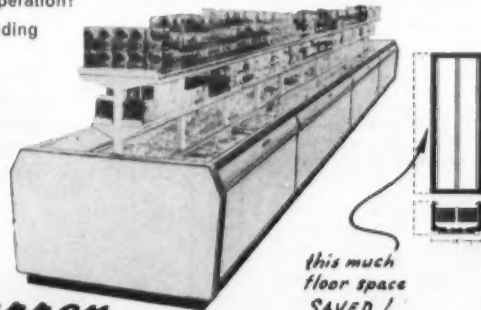
100% MORE VARIETY

...plus 45% greater capacity than conventional models

A PLACE TO PUT MORE FROZEN-FOOD VARIETIES was the problem presented to Warren by retailers everywhere, and 76 years of experience and research paid off again — with the space-saving, big-capacity **Twin-Isle* Merchandiser**, now in use by leading operators all over this country. The Twin-Isle offers two-side shopping from two compartments — both in plain view yet one refrigerator — holds 2,644 frozen-food packs or 2,160 pints of ice cream, and is only 58" wide over-all. Offers twice the variety of a conventional low-temperature display case!

Lower total investment in cases themselves, less horsepower per cubic foot, installation costs cut in half, and a drastic reduction in cost of operation!

*Patent Pending



Warren Refrigerators

BOX 1436 • ATLANTA 1, GEORGIA
EXPORT DIVISION: P. O. BOX 27884, LOS ANGELES, CAL.

this much floor space
SAVED!

To Produce 15,000 Gals. Daily

Pilot Plant Will Use Direct-Freeze Process To Convert Sea Water to Fresh

WASHINGTON, D. C. — A pilot plant to convert sea water into fresh water and using a new direct-freeze process will be built by Carrier Corp. under a contract with the U. S. Dept. of Interior Office of Saline Water, it was announced recently.

Construction will begin immediately. "The equipment is designed to produce 15,000 gals. of fresh water a day," according to Cloud Wampler, chairman of the board of Carrier.

"We expect to complete the entire pilot plant test program within 12 to 18 months with a view to qualifying our process for one of the million-gallon daily production demonstration units authorized

by the 85th Congress," Wampler said.

A report of a committee of the House of Representatives which preceded this action said: "There is rapidly developing an acute shortage of water in many parts of the United States. The sources of water on which we normally rely are gradually being exhausted, and through use and re-use the supplies from these sources are being contaminated. There is an urgent need of finding fresh water sources."

The plant to be constructed was designed by Carrier's Research and Development Div. under a previous Interior Dept. research and development contract. It will occupy an area

about 25 by 40 ft. and will be equivalent in height to a 3½-story building.

The Carrier direct-freeze saline conversion process has been under development by the company since 1955. Two years ago a laboratory model was built under the Interior Dept. program with a capacity of 300 gals. of fresh water per day. Design of the plant now to be built resulted from studies involving this small unit.

The pilot plant is expected to be in operation at the Syracuse, N. Y. headquarters of Carrier by next summer. After testing there it will be moved to a sea-coast site.

Under the test program both the technical and economic potential of the process can be evaluated. At the same time it provides opportunity for analysis of the performance of various materials and may lead to substitution of less expensive ones.

Airtemp Announces Reactivation of Its Distributor Advisory Committee

DAYTON — Reactivation of the Chrysler Airtemp Distributor Advisory Committee was announced by J. B. Ogden, vice president-sales.

Committee members include: George Webster, president, Wilson Supply Co., Inc., Washington, D. C.; Roy Matthews, president, Royalair Distributors, Dallas; James Donohue, president, Air Products Div., Phoenix, Ariz.; Joe W. Thiele, president, Joe Thiele, Inc., San Antonio; C. W. Bragg, president, Bragg Distributors, Inc., Wichita, Kan.; J. W. Hamilton, Jr., manager, Steel City Div., Wimberly & Thomas Hardware Co., Birmingham, Ala.; and Larry Baker, manager of Airtemp's New York City branch.

Ogden said the committee would meet four times annually,

and new members would be appointed each year.

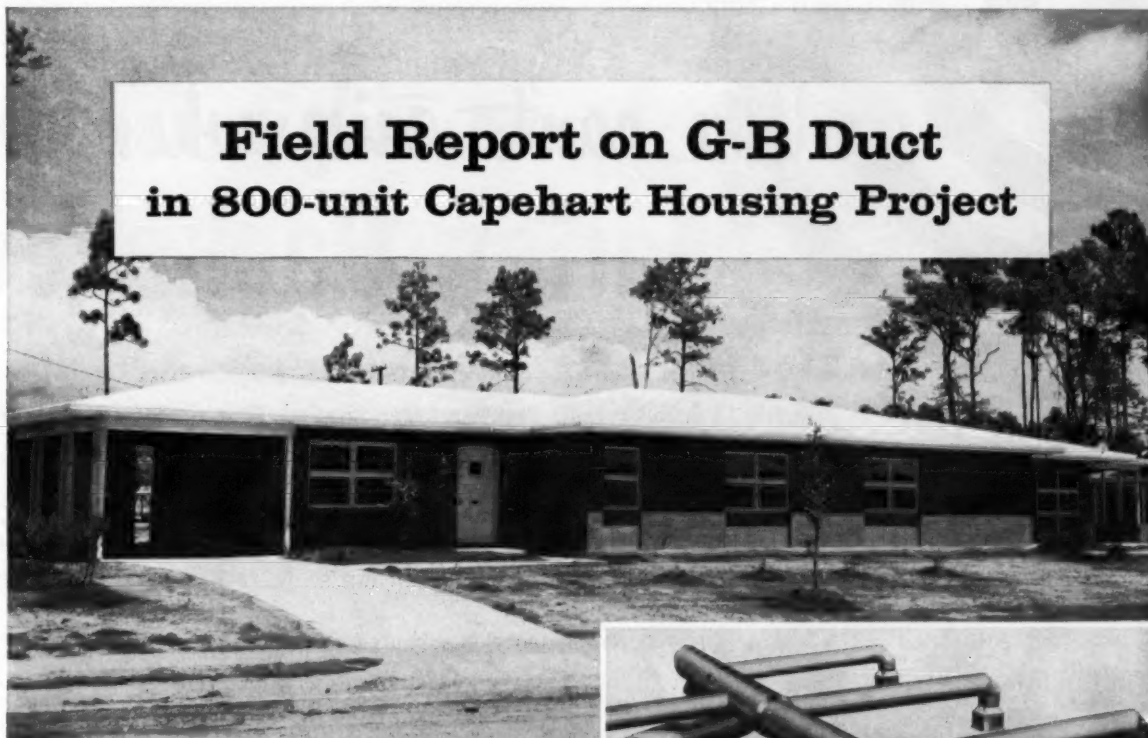
"The committee will inform us of the effect our products, prices, and policies are having on distributors across the country," he explained. "With improved communications, we are confident that our future planning will reflect the needs of our distribution organization."

Volunteer State RSES

Will Convene March 13-15

MEMPHIS—The first annual convention of the Volunteer State Association, Refrigeration Service Engineers Society, will be held March 13-15 at the Claridge hotel here, it was announced by Robert N. Blurton, Sr., general convention chairman.

Field Report on G-B Duct in 800-unit Capehart Housing Project

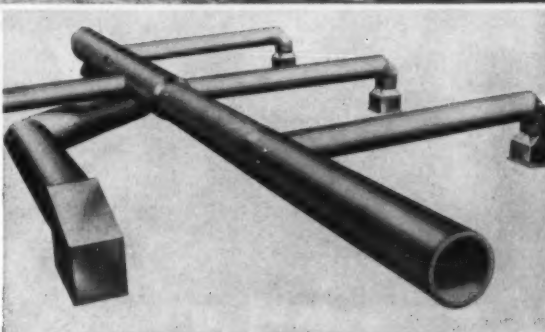


Job location: Myrtle Beach Air Force Base, S. C.

Contractor: Air Conditioning Supply Co., Winston-Salem, N. C.

"We are pleased to report that G-B Duct is living up to our expectations in the 800-unit Capehart Housing Project," says Mr. Sam W. Turner, Air Conditioning Supply Co., Winston-Salem, N. C., "and is performing very satisfactorily with the Westinghouse heat pump units. Our low bid for this project was based, in part, on our belief that even though the initial cost of G-B Duct is slightly higher, installation savings soon make it the most economical insulated duct system."

Have you tried GB-Duct?—the first and only pre-fabricated round glass fiber duct tested and labeled by Underwriters' Laboratory as an air conditioning and heating duct. Here's how it saves you time and



money: G-B Duct comes in one-piece 6' sections, ready to use—no preassembly, no folding. It's easy to cut and fit with a knife and the templates provided. Sizing is no problem because G-B Duct is made in the same nominal sizes as round sheet metal pipe and fittings.

With G-B Duct you get a neater, better job—faster. Uniformly thick glass fiber walls provide positive thermal insulation and maximum sound absorption, while the continuous airtight plastic vapor barrier sleeve positively prevents condensation.

For name of your nearest supplier, see adjoining column

GUSTIN-BACON

Manufacturing Company



218 W. 10th St., Kansas City, Mo.

Thermal and acoustical glass fiber insulations . . . molded glass fiber pipe insulation . . . couplings and fittings for plain and grooved end pipe

Field Report on G-B Duct in 800-unit Capehart Housing Project



G-B DUCT DISTRIBUTORS

AKRON, Ohio, The Asbestos Supply Co. *
ALBANY, Ga., Industry Insulation Co.
ALBUQUERQUE, N. M., States Insulation Co.
AMARILLO, Texas, Morrison Supply Co.
ATLANTA, Ga., Reynolds Aluminum Supply Co.
AUGUSTA, Ga., Noland Company
BALTIMORE, Md., Leroy Insulation Company
BEAUMONT, Tex., Solar Supply Company
BIRMINGHAM, Ala., Big Horn Supply, Inc.
BIRMINGHAM, Ala., Hall-Newsome Co.
BIRMINGHAM, Ala., Hart-Greer, Inc.
BIRMINGHAM, Ala., Shook & Fletcher Supply Co.
BIRMINGHAM, Ala., Reynolds Aluminum Supply Co.
BOSTON, Mass., Homans-Kohler, Inc.
BUFFALO, N. Y., Industrial Insulation Sales, Inc.
CHARLESTON, W. Va., Dunbar Metal & Sup. Co., Inc.
CLEVELAND, The Miles Materials Company
CHICAGO, Ill., C. C. Carlson Company
COLUMBUS, Ohio, Santele Brothers
CORPUS CHRISTI, Texas, Precision Insulation Co.
DALLAS, Texas, Insulation Supply Co.
DAYTON, Ohio, Payne-Ladewig, Inc.
DECATUR, Ga., Lennox Industries
DENVER, Colo., Gene Wright Lumber Co.
DES MOINES, Iowa, Asbestos Company, Inc.
DETROIT, Mich., Johnston Co.
ENGLEWOOD, N. J., Englewood Supply Co.
EVANSVILLE, Ind., George Koch Sons, Inc.
FT. WORTH, Texas, Bracken Co.
GULFPORT, Miss., Paine Supply Co.
HOUSTON, Texas, Precision Insulation Co.
INDIANAPOLIS, Ind., Central Supply Co.
JACKSON, Miss., Paine Refrigeration & Supply Co.
JACKSONVILLE, Fla., Ferber Sheet Metal Works
JACKSONVILLE, Fla., Florida Air Conditioners
JACKSONVILLE, Fla., Southernair Distributors
KANSAS CITY, Mo., Central Supply Co.
KANSAS CITY, Mo., Superior Distributing Corp.
KNOXVILLE, Tenn., Holston Air Conditioning Corp.
LAKE CHARLES, La., Solar Supply Company
LAREDO, Texas, Anderson-Sturgis Company
LITTLE ROCK, Ark., Gunn Distributing Co.
LOS ANGELES, Calif., Western Fibrous Glass Products Co.
LOUISVILLE, Ky., General Insulation & Roofing Co.
LUBBOCK, Texas, Morrison Supply Co.
MACON, Ga., Industry Insulation Co.
MEMPHIS, Tenn., A. T. Distributors, Inc.
MIAMI, Fla., Crabtree Insulation Co.
MIAMI, Fla., Fiber Duct Dist.
MIAMI, Fla., Reynolds Aluminum Supply Co.
MYRTLE BEACH, S. C., Air Conditioning Supply
NASHVILLE, Tenn., Central Air Conditioning & Heating Co.
NEW ORLEANS, La., Eagle Asbestos & Packing Co.
NEW ORLEANS, La., Solar Supply Co.
NEW YORK, N. Y., Eastern Steam Specialty Co.
NORFOLK, Va., Automatic Equipment Sales Co.
OMAHA, Neb., Cardinal Supply & Mfg. Co.
ODessa, Texas, Morrison Supply Co.
ORANGE, Conn., Insulation Supply Co.
PASSAIC, N. J., Rai Supply Co.
PHILADELPHIA, Pa., John F. Scanlan, Inc.
PHOENIX, Ariz., Kircher Asbestos & Rubber Co.
PITTSBURGH, Pa., Dravo Corp.
RALEIGH, N. C., Reynolds Aluminum Supply Co.
RICHMOND, Va., Automatic Equip. Sales Co., Inc.
RICHMOND, Va., Reynolds Aluminum Supply Co.
ROCHESTER, N. Y., Rochester Oil Burner Company
ROCKFORD, Ill., Mott Brothers Co.
SALT LAKE CITY, Utah, Bullough Asbestos Supply Co.
SAN ANTONIO, Texas, The Bracken Company
SAN DIEGO, Calif., Western Fibrous Glass Products Co.
SAN FRANCISCO, Calif., Western Fibrous Glass Products Co.
SAVANNAH, Ga., Reynolds Aluminum Supply Co.
SEATTLE, Wash., Western Fibrous Glass Products Co.
SHREVEPORT, La., Frith Sales Co.
SOUTH BEND, Ind., Place & Co.
ST. LOUIS, Mo., Hollander & Co., Inc.
SULLIVAN, Ill., Lewis David, Inc.
TALLAHASSEE, Fla., Baker's, Inc.
TAMPA, Fla., Eagle Roofing & Art Metal Works, Inc.
TULSA, Okla., Ball Distributing & Engr. Co.
VANCOUVER, B. C., Fleck Brothers Limited
WASHINGTON, D. C., Walter E. Campbell Co.
WINSTON-SALEM, N. C., Air Conditioning Supply

'Sun Valley' Shipments for '58 Estimated At 8,000; Set To Make 12,000 In '59

LITTLE ROCK, Ark.—Shipments of "Sun Valley" gas absorption residential air conditioners are expected to top 8,000 units in 1958, compared with 2,400 in 1957, Arkla Air Conditioning Corp. indicates in a report on its first year of operations.

"Actual retail sales will surpass the 10,000 mark, many sales having been made for future delivery and installation during 1959," the company predicts.

L. E. Walbridge, vice president and general manager of the Arkla plant in Evansville, Ind., estimates that Arkla will make 12,000 Sun Valley air conditioners in 1959.

When Arkla took over the all-year air conditioning division of Servel in September of 1957, gas utilities made a commitment to sell 4,600 units during 1958.

Most Gas Companies Have Surpassed Quotas

"Practically all gas companies participating in the commitment program have surpassed their original 1958 sales quotas, and unit No. 4,601 was shipped from our Evansville plant on Aug. 13," Arkla discloses.

Arkla's report said that in the 12 months after getting into production in October, 1957, the company sold 3,120 3½-ton air conditioners, 3,267 5-ton units, 173 25-ton water chillers, and 5,283 cooling towers.

At the end of that year, Arkla assets exceeded the purchase price paid Servel, Inc. for the business by 32%.

At the end of 1958, Arkla purchased from Servel, Inc. the steam plant which supplies Arkla, Bendix-Westinghouse Automotive Air Brake Co., and Whirlpool Corp.'s gas refrigerator plant with heating and industrial steam.

Other significant developments have also been revealed by Arkla:

"An ever increasing production rate now permits development of new markets in the LPG industry and by natural gas companies which were not a part of the original commitment program. The growth of these new markets, combined with the constantly increasing sales volume of established utility sales programs, indicates that a 100% sales increase in 1959 is not improbable.

'Trade Out' Program Inaugurated

"To keep pace with this aggressive market development on the part of local gas utilities, a nationwide 'Trade Out' program has been inaugurated to replace the older gas air conditioners with the new service-free, direct-fired, single-coil units.

"This 'Trade Out' program had been recommended by the Air Conditioning Promotion Committee of A.G.A. To accomplish this, Arkla will appropriate up to one-half million dollars in 1959 for 'Trade Out' purposes.

"The mechanics of the program have been designed so as not to jeopardize delivery of

units to new customers during this period and briefly, calls for a 'Trade Out' credit allowance of \$250 to \$315 for each thirteenth unit produced."

The company also claims that a detailed study of records on the first 10,000 direct-fired Sun Valley units reveals that only 31 developed "serious service difficulty."

"This is a record and performance history which we feel is without equal in the air conditioning industry, and one which is documented and available to any of our customers

who might desire it," Arkla comments.

Data developed in this check also shows "that the total cost of service and replacement parts, in excess of routine maintenance, would be on the order of \$5 per operating unit per year," Arkla adds.

A company spokesman said that Arkla is going to spend at its Evansville laboratories and in cooperation with established research centers in 1959 well over \$250,000 on research devoted to gas-burning appliances.

Evansville laboratories are currently working on development of an air-cooled air conditioning unit and a new absorbent-refrigerant combination for air cooling.

Need for New Sales Concept To Market Home Cooling Seen by RCA Whirlpool

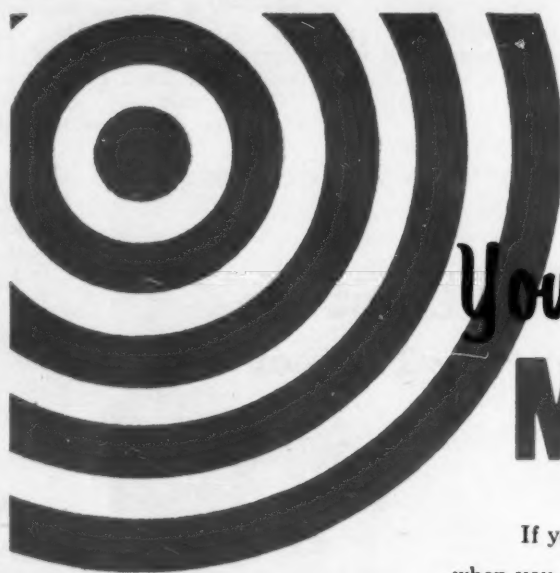
CHICAGO—"In eight to 10 years the number of homes having central home air conditioners will equal the number having room air conditioners," it was claimed by D. H. Armbruster, sales manager of Whirlpool Corp.'s air conditioning division.

He made this prediction while speaking to members of the sales staff of Heating & Cooling Products Co., recently appointed as the exclusive outlet in the Chicago area for "RCA Whirlpool" central home air conditioners.

"Past sales of central home air conditioners have been held back because they have been treated as appliances, which they are not," Armbruster asserted.

Armbruster told the group that Whirlpool's plans for a completely new nationwide system of distribution for central home air conditioners is beginning in Chicago with the group because its past record indicated an unusual know-how.

Plans developed in this market will form the basis for the national program, it was stated.



You can't miss when you Marley Packaged

If you're aiming for complete satisfaction—yours and your customers—when you install packaged cooling towers, just set your sights on the Marley line for '59. In the wide variety of sizes, styles and structural materials that Marley makes available, you're sure to find a tower that just hits the mark for any cooling requirement. Forced draft, induced draft, natural draft—steel, wood, asbestos cement board casings—you can call your own shots when you specify Marley.

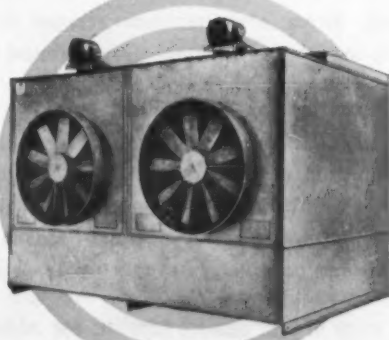
Of equal importance, you receive double-barreled support on every cooling job. Your Marley distributor has been carefully selected for his ability and eagerness to serve you both before and after your purchase of any Marley product. Back of him stands The Marley Company's assurance that every product will be satisfactory to every purchaser—a guarantee fulfilled for 36 years.

That's why we say you can't miss with the Marley line for '59. Look it over . . . then get in touch with your local Marley distributor!



The Marley Company

Kansas City, Missouri



DUAL AQUATOWERS®

DUAL AQUATOWERS® (Models 4342, 4352 & 4362), the latest additions to the complete line of Marley Aquatowers, expand capacities of the line up to 120 tons, nominal. Each model has dual fans, dual hot water basins and dual cooling chambers mounted on a common basin. They are especially applicable for "sensitive" cold water temperature applications. Hot dip galvanized finish.



AQUATOWERS®

AQUATOWERS® (Models 4205 thru 4210) for services from 5 to 10 tons, nominal, feature recessed fan venturis and covered hot water basins. Their attractive "appliance-like" design makes them especially applicable where appearance is a factor. Like other Aquatowers, they are hot dip galvanized, have close-packed fill, diffusion decks, drift-eliminators and heavy duty mechanical equipment.

UCLA Announces Program for 'Designing Indoor Environment' Conference Feb. 2-3

LOS ANGELES—University Engineering Extension, 3316 Engineering building, Los Angeles 24. The university's announcement for the conference states this purpose:

"In seeking the optimum solution for the design of an indoor environment to meet the needs of man, it is immediately apparent that consideration must be given to many factors not all independent, which affect the human system."

"The thermal, atmospheric, acoustical, luminous, esthetic, structural, and mechanical elements comprise the total environmental complex."

"This conference seeks to develop rational methods of design that consider all of the important factors separately as well as their interrelations and combined effects."

"To accomplish this objective, the conference is divided into four key consecutive sessions."

"The first session is devoted to the description of several complex systems, the important elements of the system and their interrelations. The second considers the separate factors in the total complex, discussing the state of our knowledge in each."

"The third session brings together experts in each specialty for informal working discussions."

In the announcement the University's Dept. of Engineering acknowledges program planning assistance by representatives of the Southern California Chapter, American Society of Heating & Air-Conditioning Engineers; Institute of Heating & Air Conditioning Industries; Southern California Chapter, Illuminating Engineering Society; and Los Angeles Chapter, Acoustical Society of America.

The program:

MONDAY, FEB. 2

8 a.m.—Registration.
8:45 a.m.—Conference orientation.
Chairman: Arthur J. Hess, partner,

Hess, Greiner & Pollard, Welcome and keynote—L. M. K. Boelter, dean of the college of engineering, UCLA.

Panel presentation, Session I on Systems.

9 a.m.—"Industrial Systems," Melville C. Branch, assistant for planning, The Ramo-Woodbridge Corp.

9:30 a.m.—"Housing Systems," Douglas H. K. Lee, associate scientific director, Quartermaster Research & Engineering Command, U. S. Army, Natick, Mass.

10:15 a.m.—"Mobile Systems," Alfred Mayo, chief equipment and safety engineer, Douglas Aircraft Co., Inc.

10:45 a.m.—"Community Systems," Robert E. Alexander, Richard J. Neutra, and Robert E. Alexander, architects, planning consultants, associated engineers.

11:15 a.m.—Panel discussion with audience participation. Questions and answers. Discussion leader: L. M. K. Boelter.

12:15 p.m.—Luncheon in Kerckhoff Hall.

Panel presentation, Session II on environmental factors and methods of control (our state of knowledge). Chairman: Robert H. Savage, president, Water Chemists, Inc.

1:30 p.m.—"Acoustics," Vern O. Knudsen, vice chancellor, UCLA.

2 p.m.—"Illumination," Philip F. O'Brien, assistant professor of engineering, UCLA.

2:30 p.m.—"Thermal and Atmospheric," Douglas H. K. Lee.

3 p.m.—"Esthetic," Robert E. Alexander.

3:30 p.m.—"Structures," Norman L. Pedersen, architect and engineer.

4 p.m.—"Mechanical Systems," Burgess H. Jennings, director of research, ASHAE.

TUESDAY, FEB. 3

Workshops, Session III. Chairman: William J. Biggar, account executive, Minneapolis-Honeywell Co.

9:30 a.m.—Discussion groups.

Acoustical environment. Discussion leader: Fred Mints, manager of physics research, Lockheed Aircraft Corp. Recorder-reporter: R. D. Greyson, chief mechanical engineer for Donald R. Warren Co., engineer, Resource person: Vern O. Knudsen.

Illumination environment. Discussion leader: J. S. Hamel, engineer. Recorder-reporter: John R. Hall, director of sales for Master Fan Corp. Resource person: Philip F. O'Brien.

Thermal and atmospheric environment. Discussion leader: Harry Buchberg, associate professor of engineering, UCLA. Recorder-reporter: Jack Miller, project mechanical engineer for Hinkston & Norcross, Inc. Resource person: Douglas H. K. Lee.

Esthetic environment. Discussion leader: John Lyman, associated professor of engineering, UCLA. Recorder-reporter: L. B. Rayl of L. B. Rayl & Co., consulting engineer. Resource person: Robert E. Alexander.

Structural systems. Discussion leader: Robert A. Needham, associate professor of engineering, UCLA. Recorder-reporter: Charles L. Corbett, sales engineer for Air Conditioning Supply Co. Resource person: Norman L. Pedersen.

Mechanical systems. Discussion leader: Leo Hungerford, director of sales engineering, Utility Appliance Corp. Recorder-reporter: A. L. Ottum, chief engineer for Year-Round Comfort, Inc. Resource person: Burgess H. Jennings.

Noon—Luncheon in Kerckhoff Hall.

Workshop reports, summary. Session IV. Chairman: Kenneth Robertson, chief sales engineer for the Air Conditioning Div., Pacific Scientific Co.

1:30 p.m.—Brief reports by Grayson, Hall, Miller, Rayl, Corbett, and Ottum.

Conference summary by Brown W. Saveland, assistant district manager for The Austin Co., Seattle, Wash.

Baltimore ASHAE, ASRE Hear of Air Pollution, Air Conditioning Tie-In

BALTIMORE—Ramifications of the intimate relationship of air conditioning to air pollution control were presented here Jan. 15 at a joint meeting of the Baltimore and Washington chapters of the ASRE and ASHAE.

The speaker, Editor and Publisher George F. Taubeneck of AIR CONDITIONING, HEATING & REFRIGERATION NEWS, also drew references from his second trip around the world to disclose opportunities for profit and peace via an expansion of world trade.

He pointed out that in both cases (air pollution control through air conditioning, and peaceful co-existence through increased commerce between all nations) our lives are at stake.

set your sights on a Cooling Tower

See the Marley line for '59 in Booth 74 at the Exposition in Philadelphia



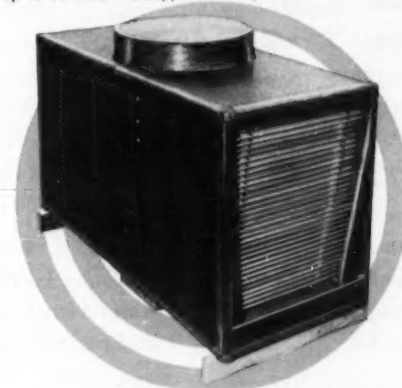
SPRATOWERS®

SPRATOWERS® of natural draft design provide maximum economy with consistent high performance. Spray nozzles of non-clog design developed scientifically by Marley produce maximum water break-up with highest water cooling efficiency. Structure is extra-sturdy, rugged columns are double-bolted. Spratowers are available in capacities from 3 tons up—models up to 15 tons are supplied with pre-assembled basins.



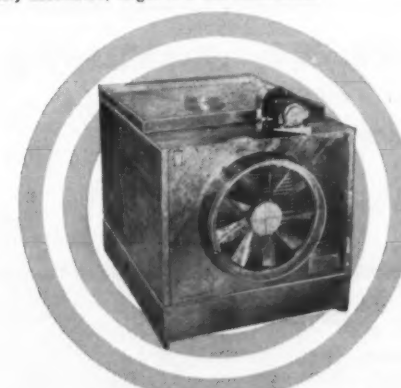
AQUACOOLERS®

AQUACOOLERS® feature full capacity performance and leak-proof, whisper-quiet operation—all in minimum installed plan area. Casings, basins and centrifugal blowers are hot dip galvanized. Marley nozzles and wood filling provide maximum water break-up and air-water contact. Capacities range from 5 to 50 tons, nominal. Smaller models ship completely assembled; larger in 2 sub-assemblies.



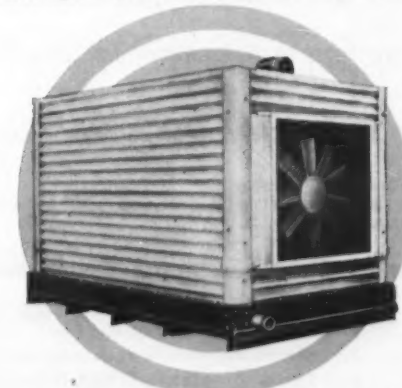
PERMATOWERS®

PERMATOWERS® set a new standard of cooling tower durability through liberal use of inert materials impervious to corrosive conditions. Vertical air discharge, quiet operation, and immunity to corrosion permit their use in any location, any climate. Available in capacities ranging from 5 to 75 tons, nominal. Permatowers offer all the Double-Flow® design advantages of performance, simplicity and permanence.



AQUATOWERS®

AQUATOWERS® (Models 4315 thru 4360) assure long, trouble-free service, top performance, and greatest economy in services from 15-60 tons, nominal. Packaged construction permits easy installation; clamp-down design permits easy disassembly. Rugged heavy-duty construction and hot dip galvanized finish minimize corrosion and maintenance. The world's standard in this capacity range.



WOOD AQUATOWERS®

WOOD AQUATOWERS® are of forced draft design with vertical air discharge, hence, can be installed in confined areas often unsuitable for towers of different design. Structural materials—long life redwood framework, asbestos cement board casing and hot dip galvanized steel components—assure long life under corrosive conditions. 5 models available with nominal capacity of 20-50 tons.

Her lips may say "Service"...



BUT there are new appliances in her eyes

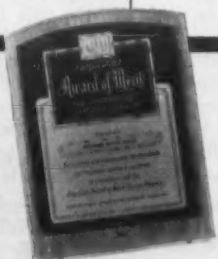
When a woman calls for appliance service, that's what she wants—fast, courteous and reasonably priced! And, while she may be satisfied with your service, the woman has never been born who can stay completely happy with an *old* appliance—no matter how well it performs. That's where your serviceman can aid sales . . . *if* he knows his Customer Relations!

The impression made by a competent, courteous, conscientious serviceman *can* make the important difference in helping a woman decide where to go to purchase new or replacement appliances. *And that's where Frigidaire Service Training comes in!*

At each of the 30 well-equipped strategically located General Motors Training Centers, men are developed into skilled Service Technicians through tuition-free comprehensive courses on products and procedures. In addition, the capable factory-trained-trainers teach each man to "put himself in his customers' shoes" . . . to build future sales through better Customer Relations.

Next time a woman calls for service, bear in mind the fact that you may be closing your eyes to future sales—unless your men are trained in *all* phases of service representation, including the building and maintaining of customer good will!

FRIGIDAIRE Golden Rule Service



**Display this proof
of outstanding
Customer Service**

Frigidaire Dealers who meet and maintain eight standards of excellence are awarded an engraved Award of Merit plaque . . . proof for all to see that these dealers know how to keep customers—happy! For information on Frigidaire Service Training and the Award of Merit Program, call or write the Factory Branch or Distributor's Office listed on the next page.

Manufacturers Accused of Overlooking Existence of 2 Types of Wholesalers

CLEVELAND—What can or should a manufacturer expect from a wholesaler?

That depends on which of two types of wholesalers he's dealing with—(1) the type who functions as assistant to the manufacturer, or (2) the one who acts as assistant to the dealer—contends Newt T. Hess, vice president in charge of sales, Vorys Bros., Inc., wholesaler in Columbus, Ohio.

Discussing the question at a problem-solving session staged at the 45th annual convention of National Warm Air Heating & Air Conditioning Association here, Hess declared that manufacturers overlook the existence of these two types of wholesalers.

The first type could be called a "manufacturer's warehousing representative" and the other a heating contractor's store, a distinction which Hess believes was first made by Dr. Robert B. Minor of Ohio State university.

"The manufacturer's warehouse representative would perform the same functions that the manufacturer himself would perform if he could afford it and if the manufacturer had sufficient men and capital, warehouse, and office facilities to properly service the territory," Hess said.

"He acts as the manufacturer's salesman and representative dealing with the retailer; he stocks these products and promotes the products of a relatively few manufacturers and lives or dies on his ability to sell these allied products.

"Because he is an able warehouse operator and efficient salesman and because he performs no retail functions he can make money on small margins representing the commission the manufacturer pays him for his sales work, plus the cost of warehousing, bookkeeping, and office work.

"He is working collectively for many manufacturers of allied products but non-competitive products; he can work for less than each manufacturer could possibly expect the cost to be should the manufacturer attempt to do the job individually. He earns quantity discounts for handling bulk lots. He is paid for performing functions which otherwise the manu-

facturer would have to do himself.

"He is primarily interested in sales in volume to retailers who themselves perform all of the retail functions. His interest is in delivering material from producer to retailer at the lowest possible cost to the consuming public. His job is to put the dealer in a satisfactory competitive position with any other retailers doing a bulk selling job. He generally sells at the manufacturer's direct factory price," said Hess.

"Now let's talk for a minute about the heating contractor's store. In this operation the wholesaler is not interested in actually selling for, and representing, a manufacturer. He buys what and where he wants. He is much more interested in having all known established lines so that he can have any product or any make of product that the greatest number of heating contractors will accept and buy.

"As a part of his service he may take over a part of the actual retail function; he may have a well kept showroom where the dealer may bring the consumer to see products instead of the dealer himself having a showroom. He may assume certain delivery functions and certain functions of furnishing capital. He may do certain promotion work to the consuming public and follow up and help sell for the dealer," Hess explained.

"Primarily he is interested in serving the dealer who needs help and who is willing to pay for it. The heating contractor store expects to sell in smaller volume, assume greater risks, and his prices to the heating contractor might be somewhat higher, yet would be accepted by the dealer because the functions performed by this heating contractor store would reduce the dealer's overhead as the dealer performs fewer functions.

"Both types of wholesalers have their place in business: the manufacturer's wholesale representative to sell the dealer who purchases a stock of merchandise and then goes out to sell it; the other, the heating contractor store, primarily is to supply by the job the heating contractor who first makes the

sale then comes to the store to buy the material to make the installation," he said.

"Both of these types of wholesalers have jobs to do and the only error occurs when the difference in function between these two goes unnoticed," Hess suggested.

"If you are talking about the manufacturer's warehousing distributor, then you should expect as much from this wholesaler as you would expect from your own factory branch. This organization would be a warehousing and selling organization for the manufacturer and you should expect him to assume all of the selling and promotion jobs that you yourself would do if you were to set up a branch in that area.

"This distributor should be an effective branch operation for you and should do the job more economically and better than a manufacturer could hope to accomplish operating individually. You become, in effect, his sales manager," Hess commented.

"If you are going to sell the heating contractor store, then this type of wholesaler will give you a different type of outlet. It will be up to you to see that the products that he sells are

your products because it will be his only job to have in stock whatever the dealer wants. He will not promote the product of one manufacturer over another but, as a store, will have all makes available to his customers. He will depend on the manufacturer to promote trade brands and to do a job of creating a demand for these brand name products.

"It will take a great deal more of the manufacturer salesman's time because each order, each group of material, will be bought competitively in the marketplace and without responsibility to any one manufacturer. He must be sold every time he makes a purchase; he will not commit himself to sell your line," Hess cautioned.

"You should expect from your wholesaler exactly what you pay him for; you decide which type of wholesaler you are going to sell, pay him his functional allowance accordingly, and expect results based on which type of wholesaler you have picked to sell your goods.

"One big trouble, one fault the wholesalers find with manufacturers is that they expect the same cooperation, the same help, the same loyalty, and the same representation from all wholesalers and they overlook the fact that in our industry there are two different types of wholesalers in existence today," Hess declared.

NHAW Members Study Resolution To Urge Manufacturers To Cut Warranties to 2 Yrs.

CLEVELAND — During the coming months officers and members of the National Heating & Airconditioning Wholesalers Association will be studying a proposed resolution urging manufacturers to drop the five-year warranty in favor of a one-year warranty on air conditioning equipment, as reported in the Dec. 15 issue of the News.

The resolution was presented at the association's 12th annual fall convention here by the group's air conditioning committee, which is headed by R. W. Allen of Winston-Salem, N. C.

Final action on the proposal will be taken at the next national meeting of NHAW, which is scheduled to be held in Los Angeles on May 11 and 12, according to an association spokesman.

Text of the proposed resolution is as follows:

Whereas it is common policy for manufacturers of air conditioning equipment to supply a 5-year warranty against manufacturing defects on such equipment, and

Whereas the charge for this warranty is either included in the product price or as a mandatory extra, and

Whereas this warranty was designed to offer to the end user of equipment protection against manufacturing defects for a 5-year period, and to build the customer's confidence in such products, and

Whereas investigation of various manufacturers' warranties has proven that these warranties lack consistent description as to their coverage, and

Whereas this has caused confusion and misunderstanding on the part of the customer as to what coverage is provided by the warranty, and

Whereas the customer pays for this warranty whether or not he understands the scope of its coverage, and Whereas because of these facts the 5-year warranty has failed to accomplish its original purpose of creating customer confidence in the product and satisfaction with its use, and

Whereas the 5-year warranty also has been detrimental to the wholesaler and his dealer-contractor customers because:

- (1) it offers no incentive to carry adequate service parts inventories;
- (2) it is costly to administer, and therefore these costs must be passed on to the end user;
- (3) it has been conducive to improper application and sloppy installation;
- (4) it has been conducive to improper diagnosis of service complaints;
- (5) it has restricted the opportunity to sell preventive maintenance contracts to customers;
- (6) it has led to loss of profit on service labor and misunderstanding on the part of some dealer-contractors in charging back labor allowance;
- (7) it has increased the cost of equipment without accomplishing the desired result;

Therefore be it resolved that we as wholesalers and members of NHAW advocate that the air conditioning manufacturers discontinue the 5-year warranty as it is now constituted and substitute a standard 1-year warranty from date of installation against manufacturing defects in air conditioning products, and that the staff of this association be directed to contact these manufacturers to inform them of this association's stand on this matter.



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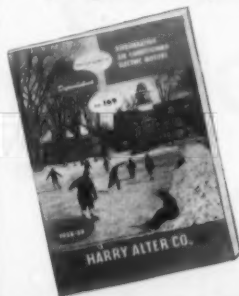


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FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG WAREHOUSES

Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from Page 1, Col. 1)

One of the greatest attractions of this type of bird feeding platform is its simplicity, he mentions. A panel board laid across the top of a room air conditioner will give you a cat-proof, easy to observe, home for interesting birds to visit.

"For more convenient feeding, I leave the window which rests on top of the air conditioner unsealed. This enables me to feed the birds on disagreeable days without having to go outside," Mr. Duvall adds.

"I put out ordinary chicken feed along with an occasional piece of suet for my feed mixture. My three small children can make a bag of feed disappear mighty fast when they all want to feed the birds."

Recipe for Success

Are you a worrier? (Well, who isn't?)

Man we heard about designated Wednesday as the day to do all his worrying. If anything bothered him on any other day, he jotted down a note about it, and filed it away for consideration on the following Wednesday.

Each Wednesday he glanced over his worry file. Problems which had been settled, or disappeared in the meantime, comprised the bulk of that file, he discovered.

Those worries which remained he refilled for consideration the ensuing Wednesday.

Albert Bradley retired this year as Chairman of the Board of the General Motors Corp.—hale, hearty, and eminently solvent.

Outer Space, Here We Come

There are at least 100,000,000 planets in the universe which are suitable for human life as we know and enjoy it.

These "other Earths" quite likely are inhabited by living, thinking human beings who are equal or superior to our average Earth-kind of man, according to Dr. Harlow Shapley, famed Harvard astronomer.

In his new book, "Of Stars and Men," Dr. Shapley states that conditions which make life (like ours) possible occur wherever and whenever any planet is located at the proper distance from a star (sun) to provide requisites of water, oxygen, and moderate temperatures needed by living organisms.

Our little old Earth, he points out, is a sub-standard planet in the small family of a run-of-the-mill yellowish star.

Our Sun, in turn, is a minor member of a typical galaxy which contains billions of bigger and better Suns and solar systems than the one which includes Earth.

And there are billions of such galaxies! Our "home galaxy" (the Milky Way) is only one such star system among many more billions like it in the known universe (which probably is infinitely greater than our visual and radio telescopes re-

veal so far to our astronomers).

Undeniable evidence exists that the same laws of physics and chemistry known on this Earth also operate throughout the universe of thousands of millions of billions of suns and their orbiting planets.

Thus, Dr. Shapley argues, mathematical odds are tremendous that we are not alone humanly in space.

Exciting Days Ahead

Sooner than you think we'll be getting acquainted with our stellar neighbors, too.

"Dope" believes that ours is the most exciting age in the history of this little world, for that reason. It is comparable only to the time of Ferdinand and Isabella, historically.

In those days Columbus, Vasco de Gama, Magellan, and many other intrepid explorers

sailed out into unknown realms on puny ships—against terrifying odds and superstitions (sea monsters, "you'll drop over the edge of the world," etc., etc.).

Right now you and I don't know what's "out there" in the galaxies—just as those early explorers of the Ocean Seas didn't realize what they'd discover across the Atlantic and Pacific. But we do know SOMETHING is—something tremendous.

And, as Tom Morrow (erudite Chrysler vice president in charge of missiles, air conditioning, and almost everything else) puts it:

"Our air conditioned, scientifically controlled explorers of Outer Space will have far better chances of survival—both mentally and physically—than did Columbus's ragtag, illiterate crews.

"They sailed into the frightening seas on rickety little ships

you and I wouldn't risk on a placid northern Michigan lake. Their food was bad, their discipline worse, their knowledge comparatively infinitesimal.

"Our modern space travelers will be much better equipped to explore the beckoning Universe, and to come back with what may be startling stories and pictures."

Quote of the Week

You can be sure of one thing: What your God is you also are. You are God's advertisement. Your thoughts, your speech, your actions reveal clearly the God you worship in your heart. —TOM DREIER.

Final Smiles

Alleged "humor" scrawled on the walls of men's rooms usually is sickening. But this item, pencilled on the inside door of

an Indiana gas station "john," is an exception.

First, there's a big X, encircled. Follows this hopeful notation:

"Site of proposed coat hook."

Exasperated at his men's lack of vigor during bayonet drill, a sergeant halted practice and tried a new incentive. Pointing to the row of stuffed dummies used in the drill, he shouted:

"Men, just imagine that those dummies are the enemy. They've burned your house, shot your parents, carried away your sisters, stolen all your money, and drunk all your whiskey. C'mon, now, go get 'em! Kill 'em!"

Suddenly, new life surged into the troops, and they rushed at the dummies savagely. As one of the snarling GI's moved past the sergeant, he growled:

"Sarge, which one drank that whiskey?"

ANNOUNCING THE AMERICAN-STANDARD

"BONUS"



10-Year Study

'Evaluated Weather Data for Cooling Equipment Design' Is New Manual

WHITTIER, Calif. — "Evaluated Weather Data for Cooling Equipment Design," compiled under the sponsorship of Fluor Products Co. here, presents in manual form a statistical analysis of hourly readings taken at more than 400 weather stations throughout the U.S., Canada, and Mexico for a period of 10 years (1948-1957).

Design values for various frequencies of wet-bulb temperatures are given for each station in both table and map form. Other values include dry-bulb temperatures and wind speeds and directions coincident with the high wet-bulb temperatures. With the data contained in

the manual, declare Fluor engineers, it will be possible to determine quite accurately the actual hourly occurrence of wet-bulb temperatures for each specific location. It should also help, it is said, in determining the economic risk involved in designing for a wet-bulb frequency from maximum to a 20% level.

Dry-bulb temperatures occurring coincident with high wet-bulb temperatures are tabulated for 49 major locations in psychrometric charts. Approximately 10 million readings were averaged and analyzed, utilizing government owned computers, to obtain the

data published in the manuals. The hourly observations were accumulated by U. S. government weather stations, as well as Air Force and Navy weather stations, and placed on punched cards for machine tabulation.

Data was compiled and interpreted by Loren Crow, consulting engineer in Denver, and formerly with Krick Weather Services and the U. S. government. He was assisted by Prof. Wesley Smith, Oregon State college, and the Fluor engineering department.

Information on the availability of the manual may be obtained by addressing Fluor Products Co., Dept. "DEW."

Store-Wide Cooling

ROCHESTER, N. Y. — The first phase of a store-wide air conditioning project at Sibley, Lindsay & Curr Co. will be completed by June 1.

PHCIB Raises \$55,000 In First Month Of Membership Drive, President Says

CHICAGO — The first month of the Plumbing-Heating-Cooling Information Bureau's current membership drive has raised more than \$55,000 for the bureau's 1959 program.

This was the highlight of a report by PHCIB President Howard L. Spindler on results of the initial period of membership activity.

Summarizing information received from Morris Stein, chairman of the Membership Committee, Spindler reported that within three weeks after the drive had been kicked off among member manufacturers, 58 companies had joined.

"During 1958," Spindler stated, "we had 119 member manufacturers. This instant re-

sponse indicates excellent prospects for exceeding that number in 1959.

"Wholesalers are responding every bit as enthusiastically," Spindler continued. "CSA's pledge of \$12,500 for its 375 members, representing a 25% increase over 1958, is solid indication of this. In addition, our first mailing to other PHCIB wholesaler members brought membership checks from 25% of them within two weeks."

The contractor membership drive will get under way soon, Spindler pointed out.

Spindler also announced the continuation of PHCIB support by the United Association. Other associations that have already voted substantial 1959 support are the National Association of Domestic & Farm Pump Manufacturers, the National Water Well Association, and the Southern Wholesalers Association. Spindler expects more associations to join as necessary meetings are held.

Michigan Industrial Ventilation Conference Set for Feb. 16-19

EAST LANSING, Mich. — The 8th annual Industrial Ventilation Conference sponsored by the Div. of Occupational Health, Michigan Dept. of Health, and the Dept. of Mechanical Engineering and Continuing Education Service, Michigan State university, will be held at the Kellogg Center here Feb. 16-19, it was announced.

The conference will present practical, informative lectures and design problems for ventilation designers, contractors, and consultants, according to the announcement.

Naw Expands Executive Management Course To U. of Pennsylvania

WASHINGTON, D. C. — The National Association of Wholesalers has expanded its eighth annual wholesale executive management course to the campus of the University of Pennsylvania, Wharton School of Finance and Commerce, in addition to the Ohio State university, College of Commerce.

The 1959 course will be offered to 120 wholesale executives, 72 on the Ohio State campus the week of June 15, and 48 at the Wharton School the week of June 22. The same tuition of \$200, including room and noon-day meals, will apply at both schools.

Out of This World Ad

MELBOURNE, Australia — Not long after America's talking Atlas satellite went into orbit, a local air conditioning and refrigeration firm cabled officials at Cape Canaveral:

"Please quote rates for 30-word spot announcement to be broadcast to earth from Atlas satellite featuring our firm."

BONANZA!"

FOR WARM-AIR HEATING & AIR CONDITIONING DEALERS

This is your lucky day! Read this:

Starting now, with every American-Standard warm-air furnace you buy from your American-Standard distributor, you'll get a special bonus certificate.

And with every American-Standard summer air conditioner you buy, you'll get *two* bonus certificates.

These certificates are as good as cash—you can use them to buy anything your distributor handles: tools, fittings, replacement parts, furnaces...anything! It's a real Bonus Bonanza!

Here's an important "plus" to the Bonus Bonanza plan — Your American-Standard distributor offers you the complete American-Standard sales-promotion program... including the industry's most liberal cooperative advertising plan, as well as a complete selection of literature, dealer-identification material, catalogs and dealer aids for every promotional requirement.

Don't forget: When you sell American-Standard, you're selling the industry's most complete line of residential and light commercial year-round air conditioning equipment. And years of powerful national advertising have made this equipment—and the name "American-

Standard"—a symbol of fine quality and fair value in the minds of millions of consumers.

In short, American-Standard is the *easiest-to-sell* line of heating and summer air conditioning equipment in the industry.

Get in on the Bonus Bonanza now!—This American-Standard promotion means extra profits for you any way you look at it. You get a big bonus for buying a furnace, a *bigger* bonus for an air conditioner—and strong advertising support from American-Standard all the way!

See your American-Standard distributor today. He'll fill you in on the money-making details. Call him right now!

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and 25,000 were gobbled up quickly. Better Business Bureaus got into the act. So did the ARI. Mills of the gods grind slowly on something of this nature, however. Inertia set in for awhile.

Further editorials in the NEWS continued hammering on this acute theme. ARI committee members worked hard. Ethical manufacturers put pressure on recalcitrant competitors. So did contractors.

And, at last, now we witness a real good result. The industry as a whole is to be congratulated. Likewise the public.

Long live the "Seal."

**SEEKS AID TO START CORRESPONDENCE SCHOOL IN ITALY**Via Pisacane 42
Milano, Italy

Editor:

As a subscriber of the NEWS, I am following your "Report on Education" with appreciative interest. I am a refrigeration and air conditioning engineer, now a consulting engineer, and I am associated with York Distributor in Italy.

It is my intention to begin an air conditioning and refrigeration correspondence course or school in Italy.

There are not courses of this

type now, and also the Day Schools are very scarce and rarely attended by a type of man who is already in the trade, but has no time to attend school.

Is there some American school with which I could work in setting up these courses in Italy? Are any of these schools operating on an international basis?

We need training badly. As an example, I would estimate that less than 1% of Italian servicemen use vacuum pumps to test and charge a system.

DOTT. ING. MARIO DEL MORO

Handy Way to Subscribe**To See the Industry In Action EVERY WEEK**

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING, HEATING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on residential, commercial, and industrial air conditioning, heating, and refrigeration for contractors, dealers, consulting engineers, distributors, servicemen, and manufacturers. Read the industry's only newspaper every week—you'll profit by it—only \$6.00 per year, 52 issues (U.S. and Canada). Foreign: \$16 per year.

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They'll
Do It
Every
Timeby
Jimmy
Hatlo**Unselfishly Gallant Victory for
Ethical Sales Practices**

(Concluded from Page 1)

complies with national standards established by ARI in cooperation with the National Warm Air Heating & Air Conditioning Association.

This is GOOD NEWS, indeed, and at long last!

In addition to restoring public confidence (in our industry) this "certification program" will offer distributors, dealers, contractors, and builders one of the most powerful sales tools they have enjoyed in the entire history of residential and small commercial air conditioning.

To the good name of the manufacturers whose products they offer, this "seal" adds the reputation of two reputable national trade associations—backed up by an independent testing laboratory.

Already most of the leading manufacturers have taken the pledge. Moreover, there is a likelihood that a number of other manufacturers will sign contracts soon. Hence, dealers and distributors can offer choices of a substantial variety of certified brand names to their customers (all guaranteed to comply with ARI Standard 210-58) reasonably soon.

That admirable certification program, which became effective Jan. 1, covers thousands of residential and commercial type air conditioners of less than 135,000 B.t.u. cooling capacity. Here's how it works:

Under contracts signed with ARI, each participating manufacturer agrees to produce, test, and rate these units in accordance with ARI standards, and to supply said test data to ARI. Upon acceptance by ARI of this data, the manufacturer is granted the right to display the certificate and advertise the seal.

Contracting manufacturers also agree to "random" testing of their certified products by a laboratory which is under contract to the institute. At any time an ARI representative can go to a distributor's warehouse, ask for a unit by model number, take it to the laboratory for testing, and advise its manufacturer how it stacks up after checking.

If such tested units are not up to advertised claims, the manufacturer will be told he must "get with it" lest he forfeit the right to display the seal. ("The seal" of certification will be integral with a

nameplate or attached to a cabinet as a decalcomania.)

Here's an extra dig: participating manufacturers are urged to test products of their competitors, and report results of these tests to ARI. If such a report indicates that a certain air conditioner does not merit its advertised capacity (or other claims) ARI will procure a unit of the same model and subject it to examination by an impartial laboratory.

Outcome of such re-examination could result in withdrawal of the right to use that coveted seal—if a unit fails to match its advertised performance—and if, thereafter, its manufacturer does not redesign it to secure compliance with the standards.

Similarly, complaints from other sources—individual users, government purchasers, etc.—will provide valid cause for the association to check up on actual performance of an air conditioner vs. its advertised claims.

ARI has authorized a national publicity campaign designed to acquaint the public, as well as contractors, dealers, and wholesalers, with the significance of this important Seal.

Gentlemen, here is a milestone in our industry. And the NEWS is proud of its role in its development. The whole thing started with an editorial in the NEWS entitled: "We Can't Build a Good Business on Dishonesty."

This editorial said, in its beginning paragraphs:

"Right now the air conditioning industry is practicing dishonesty in its capacity ratings. If not checked, OUR business will get a set-back from which it may not recover for many years.

"Surely, decent men in the air conditioning field can devise an understandable method of capacity rating air-cooled and water-cooled commercial and residential air conditioning equipment, and do the same thing for room air conditioners. And then agree on it, and live up to it."

Response to this editorial was overwhelming. From all over the country contractors, dealers, servicemen, consulting engineers, manufacturers wrote letters about the situation, and cited chapter and verse of ethical violations.

Reprints of this editorial were offered,

FIRST SIGNING of the roll for membership in the newly-organized Canadian Refrigeration & Air Conditioning Association is penned by Ernest Pullen of Air Coils Mfg. Co., Ltd. of Oakville, Ont. Observing the event are (l. to r.) R. W. Neal, secretary of CRACA interim committee; Warren W. Miller of Frigidaire Products Co., Ltd., Toronto; I. M. Bodine, of KeepRite Products, Ltd., Brantford, Ont.; and Edward Milner of Edward Milner Co., Ltd., Toronto, and chairman of the interim committee.



Canadian Refrigeration & Conditioning Assn. Plans First Meeting for Jan. 23

BRANTFORD, Ont., Can. — First meeting of the newly-organized Canadian Refrigeration & Air Conditioning Association will be staged at the Alpine Inn in the Laurentian Mountains near Montreal Jan. 23-25. I. M. Bodine, publicity chairman for the CRACA interim committee, announced recently.

Since formation of the Canadian all-industry association last September, approximately 100 members from all major cities of Canada have joined, Bodine said.

CRACA is designed as an all-industry group aimed at establishing the industry as an entity among consumers and the public, to serve the advancement of the refrigeration and air conditioning industry in Canada, and to deal with problems endemic to the whole industry.

Active membership is divided into four divisions, representing manufacturers, contractors, wholesalers, and supporting suppliers. Manufacturers' agents, distributors, and dealers are eligible for associate membership.

"A contractors association has been formed as a division of CRACA in five principal localities across Canada and others are in the process of formation now," Bodine told the News.

"The wholesalers group of eastern Canada have formed what they refer to as the Eastern Wholesaler's Division of CRACA and we have reason to believe that in a very short time the western wholesalers will be forming a similar group," he added.

Bodine also announced the appointment of Terry McLorg, a Toronto professional engineer long associated with the air conditioning and refrigeration industry, as permanent executive secretary of CRACA.

Since formation of the group five months ago, organizational activities have been carried out by an interim committee. The committee will continue to run the association until the first board of directors is elected at the Alpine Inn meeting.

Constitution calls for a board comprised of five manufacturers, four contractors, three wholesalers, one supporting supplier and the past president.

Future activities of the group may include developing and promoting due recognition of the industry among architects, consultants, consumers, and all regulatory bodies; issuing a bonded seal indicating integrity and reliability of mem-

bers; fostering and encouraging legislation beneficial to the industry; collecting and distributing industry statistics and data; conducting trade promotion activities; and defining and classifying the various segments of the industry.

Underwriters' Lab Explains Why It Uses Its Own Refrigerant Designations

CHICAGO — While Underwriters' Laboratories, Inc. uses an arbitrary system of refrigerant designation for its internal record keeping, this practice in no way implies objection to industry-accepted terminology as standardized in ASRE Standard 34-57, "Designation of Refrigerants," according to G. H. Pope of Underwriters'.

(The News has encountered confusion in the field over the occasional external use of Underwriters' system.)

Replying to a query from the News, Pope stressed that the system is utilized only "in certain references to refrigeration accessories. While our designations have appeared on some listing cards, this is merely for the purpose of saving space.

"Our special R numbers 1 through 10 are not utilized on equipment, and we don't intend them to be," he concluded.

Because Underwriters' refrigerant terminology is encountered occasionally in the field, the News presents here the appropriate conversions.

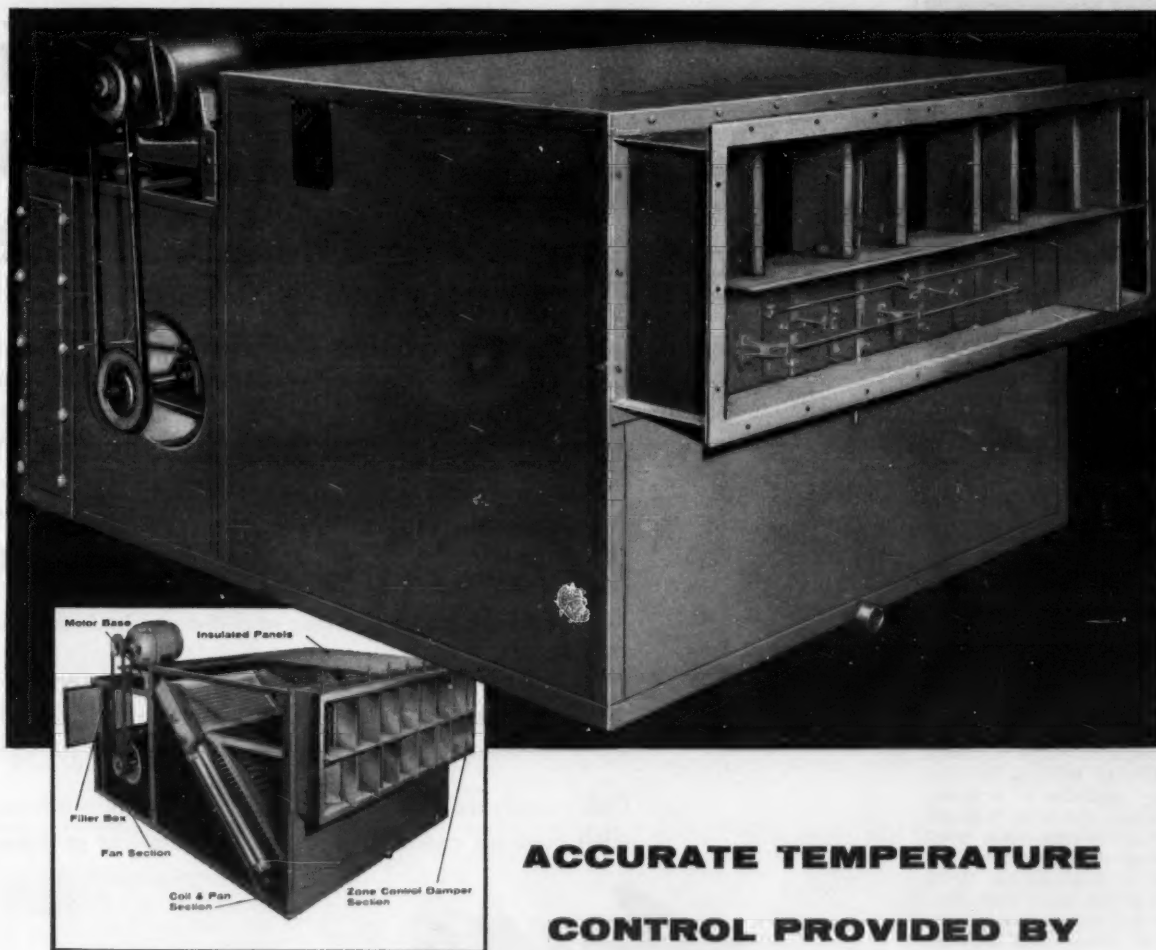
| Underwriters' | ASRE |
|---------------|-------------------|
| R-1 | Refrigerant-12 |
| R-2 | -22 |
| R-3 | -500 |
| | (Carrene 7) |
| R-4 | -40 |
| | (Methyl Chloride) |
| R-5 | -764 |
| | (Sulfur Dioxide) |
| R-6 | -11 |
| R-7 | -21 |
| R-8 | -113 |
| R-9 | -114 |
| R-10 | Ammonia |

Dan O'Leary Heads Controls Co. of America (Canada)

SCHILLER PARK, Ill.—Dan O'Leary has been elected president of Controls Co. of America (Canada) Ltd., Cooksville, Ont., it was announced by Louis Putze, president of the parent Controls Co. of America.

Putze said "this move is being made to form a more direct tie between the Canadian plant and domestic operations in the United States as well as to allow Remy Ludwig, vice president in charge of the International Div. of Controls Co. to give more attention to our growing operations in Europe and South America."

Ludwig, who was also president of the Canadian subsidiary, will continue as a member of the board of directors of that company.



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CONTROL PROVIDED BY**

"BUFFALO" ZONE CONTROL CABINETS

"Buffalo" Zone Control Cabinets are engineered for installations where a single unit must provide varying degrees of conditioned air for several zones or rooms. These quiet operating compact units perform with peak economy, flexibility and dependability.

Temperature is controlled by mixing cooled and heated air in just the right proportions to suit each conditioned space. The need for separate re-heat coils and their controls is completely eliminated. Control for each area can be manual or entirely automatic.

"Buffalo" Zone Control Cabinets are sectionalized for maximum ease of installation. Removable panels and

bearings located outside the cabinet simplify servicing. The entire unit is sturdily constructed to insure a long life of maintenance-free operation.

You're sure of satisfactory results when you specify "Buffalo" Zone Control Cabinets. Your "Buffalo" engineering representative will be pleased to provide you with information concerning unit selection, installation, etc. Contact him, or write us direct for Bulletin AC-220.

All "Buffalo" equipment brings you the "Q" Factor — the built-in QUALITY which provides trouble-free satisfaction and long life.

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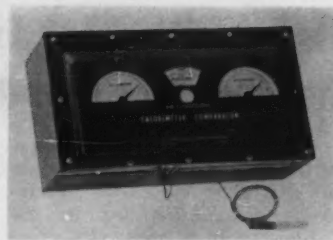
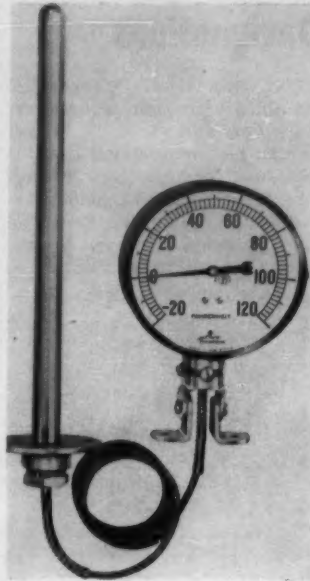
Duct Thermometer Has Universal Joint

● Dial thermometers specifically developed for use in ducts have been announced by Jas. P. Marsh Corp., Dept. AH&RN, 3502 Howard St., Skokie, Ill.

A major consideration in developing the new duct thermometers has been ease of reading, assured by the large legible dial and the universal joint which permits the dial to be swivelled or tilted to any of five positions.

The joint permits the dial to be adjusted to any convenient reading angle regardless of the positioning of the flange on the duct. It was also noted that the flange is provided with an extension neck that will clear the insulation of all insulated ducts.

Two types of duct thermometers are available: direct mounted type for location at the point of measurement; distant reading type, with 6 ft. of capillary tubing for application where it is desirable to have the dial some distance away from the point of measurement.



Instrument Measures Heat Cooler Removes

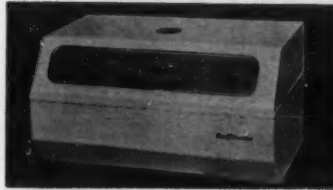
● A newly-invented portable instrument called the "Calorimeter-Comparator" is now offered on the market for testing the effectiveness of air conditioners, it was announced by Liaison Engineering Services, Dept. AH&RN, P.O. Box 5, Garland, Texas.

It is adaptable for use with residential and commercial air conditioners as well as for automotive air conditioners.

"Small and inexpensive, the Calorimeter-Comparator accurately

ly indicates in B.t.u. the heat removed by the air conditioner in operation as well as the total air volume," the announcement said. "It establishes the B.t.u. per hour capacity of the air conditioner under test in its installed operating condition. The instrument, with over-all dimensions of 16½ in. by 9 in. by 6½ in., weighs approximately 6 lbs.

Brass Case Houses Daffinaire Humidifier



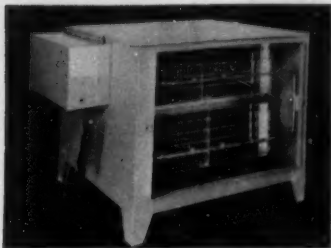
● An improved version of the model 654 "Daffinaire" humidifier is being offered by Herrmidifier Co., Dept. AH&RN, Neffsville, Pa.

The new model 654B has the capacity to completely humidify a six-room home or office for an

operating cost of less than three cents a day, the company claims.

"New features include a completely corrosion-proof case of solid brass construction, with exterior finish in a soft decorator color," it was pointed out. "In addition, the unit is equipped with new hinge stops to support the lid when in raised position; a new rust-proof, aluminum-coated motor cover; new replaceable-type double-density filters, and new resilient neoprene motor mounts that insure quiet operation.

Model 654B is priced at \$99.50.



Home Precipitrons Handle 4 to 10 Rooms

● Two new models of the "Precipitron" electronic air cleaner for home installation have been introduced by Westinghouse Sturtevant Div., Dept. AH&RN (T-400), 200 Readville St., Hyde Park, Boston 36.

These units (models PH-124 and PH-244) are designed to clean air electronically in homes with four to 10 rooms.

A newly-designed power pack on the new models incorporates a selenium rectifier instead of the former vacuum tube rectifier; a greatly simplified wiring circuit; a rheostat for proper regulation of incoming line voltage; and a pilot light that switches ON when the unit is not operating, it was pointed out.

Model PH-124 with a 1,000 to 1,200 c.f.m. capacity is designed for the average five to seven-room house; model PH-244 with 2,000 to 2,400 c.f.m. capacity, for homes with eight or more rooms. Both units can remove more than 90% of the dirt and pollen in air circulated in the home, it is claimed.



Refrigerated Case For Self-Serve Candy

● A refrigerated chocolate candy case with controlled humidity is being manufactured by Percival Refrigeration Mfg. Co. of Boone, Iowa, and marketed by C. Q. Sherman Associates, Inc., Dept. AHRN, 18 West Broad St., Mount Vernon, N. Y., the latter firm announced.

The case is designed for self-service holding about 150 lbs. of boxed candies, and an additional 100 lbs. in the storage compartment. It is equipped with rubber casters.

Acme ...YOUR BEST BUY IN COMPLETE AIR CONDITIONING AND REFRIGERATION SYSTEMS

Look to Acme for the best in all types of air conditioning systems. Acme supplies a complete line of air conditioning and process cooling equipment including packaged liquid chillers, and remote room conditioners, air handlers and multi-zone units for use in direct expansion or chilled water systems. Acme water saving equipment includes evaporative condensers, indoor-outdoor cooling towers and outdoor cooling towers. In addition, Acme offers a complete range of self-contained air conditioners.

Acme components for built-up systems have long been recognized as the best available. All major manufacturers of refrigeration equipment have used Acme components for many years.

Call your Acme sales engineer for details on how he can help you with your air conditioning or process cooling problems.

Acme INDUSTRIES, INC.
JACKSON, MICHIGAN

MANUFACTURERS OF QUALITY AIR CONDITIONING
AND REFRIGERATION EQUIPMENT SINCE 1919

**FOR THE BEST IN BUILT-UP SYSTEMS ...
USE THESE Acme MATCHED COMPONENTS**

- Direct Expansion Coolers 1 to 300 tons
- Shell and Tube Condensers 1½ to 700 tons
- Shell and Coil Condensers ¾ to 10 tons
- Heat Exchangers 3 to 150 tons
- Liquid Receivers 3 to 150 tons
- Oil Separators 5 to 100 horsepower
- Air Cooled Condensers 3 to 100 tons
- Direct Expansion, Water and Steam Coils

A complete range of sizes and capacities for almost every
OEM, built-up system and replacement need.

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Acme line at Booth
508 14th International
Heating and Air Con-
ditioning Exposition,
Convention Hall, Phil-
adelphia,
JANUARY
26-29.

Preformed Pipe Insulation Has Closed Cells



● A new preformed, closed-cell tube and pipe insulation has been announced by Presstite-Keystone Engineering Products Co., a Div. of American-Marietta Co., Dept. AH&RN, 39th and Chouteau St., St. Louis.

Under the trade name "Presst-O-Cel," the product has been designed to stop condensation, insulate against heat loss, and serve as a vapor barrier.

"Made of expanded 'Neoprene,' the tubular insulation consists of millions of closed cells that permanently exclude water, moisture, and air," the company said. "The

result is a K factor (measure of heat conductivity) that is extremely low: 0.30 at 120° F."

Presst-O-Cel is said to be oil, acid, and alkali resistant and rat, vermin, and fungi proof. It is packaged in 6-ft. lengths and comes in a ½-in. wall thickness for all standard pipe sizes from ¾ to 2½ in.

Locking Type Casters On Spot Merchandisers

● Designed for merchandising of frozen foods are two new "low-priced" spot merchandisers built by Erickson Industries, Inc., Dept. AH&RN, P. O. Box 127, River Falls, Wis.

The cases are mounted on locking-type casters for portability and plug into any 115-volt electrical outlet which permits spotting at strategic in-store locations for impulse sales of food products, the company said.



Two models are available: SM 46 (46 in. long) and SM 36 (36 in. long). Both are 28 in. wide and 35 in. high. A night cover is furnished which doubles in daytime as a card or poster display holder.

Spot merchandisers are available for either freezer temperature for frozen foods use or standard temperatures.



Portable Dehumidifier Dries Home Basement

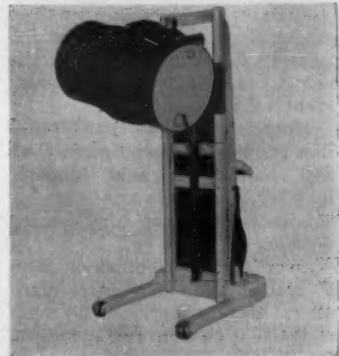
● A new electric portable dehumidifier designed specifically for residential basements and over-drain applications has been announced by Heat Controller, Inc., Dept. AH&RN, 1900 Wellworth Ave., Jackson, Mich.

The "Comfort-Aire" dehumidifier is available with (model DLA-15) or without (model DL-15) an integrally built-in and wired Minneapolis-Honeywell humidistat for automatic operation.

It features a ¼-hp. Tecumseh

compressor, spiral aluminum evaporator, ¼-in. hose connection, plated steel legs, and top-mounted handle. It weighs less than 50 lbs.

Without humidistat, it carries a suggested list price of \$94.95. With humidistat, price is \$109.95.



Big Joe Brings Out Heavy Drum Tilter

● A new and reportedly inexpensive method for lifting, stacking, and pouring liquids from drums is provided by the "Drum Tilter," produced by Big Joe Mfg. Co., Dept. AH&RN, 900 W. Jackson, Chicago.

It is possible to hydraulically lift, move, and stack—and to pour from—heavy 1,000-lb. drums by use of the machine, according to the company. Suited for movement in and out of drum aisles, this lift truck permits tilting the drum to any desired degree and holding in that position any length of time, it was stated.



Foamglas Insulation Keeps Piping Dry

● Development of a new line of "low-cost" rigid cellular glass insulation for hot and cold commercial piping applications has been announced by Pittsburgh Corning Corp., Dept. AH&RN, 1 Gateway Center, Pittsburgh 22.

The company "now is offering for the first time a special 'Foamglas' insulation for commercial piping in a temperature range of 35° to 350° F.," the announcement said.

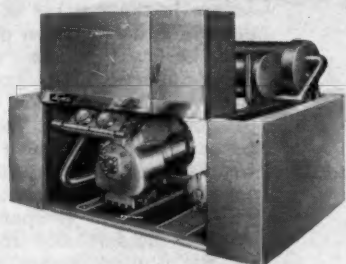
"New production equipment allows the company to price the material so that it is now possible to install permanently vapor-proof, incombustible, waterproof, dimensionally stable Foamglas pipe covering for approximately the same cost per linear foot as other commercial pipe insulations."

The new material, called Foamglas "Stay-Dry" pipe covering, is shipped in 24-in. lengths, factory-wrapped with a dual purpose kraft and aluminum foil laminate by specially designed equipment. The white laminate serves as a tough protective jacket and has an attractive finished appearance, the company said. It can be painted with a water-based paint if desired.

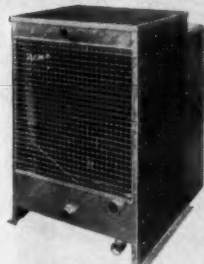
Ease and speed of installation are two of the principal features of the pipe covering, according to Pittsburgh Corning engineers.

"Due to the high compressive strength of Foamglas, the new covering can be installed before or after hanging the pipe. Hangers can go around a fully insulated pipe section without compressing the insulation."

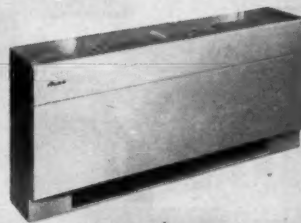
CHILLED WATER SYSTEMS



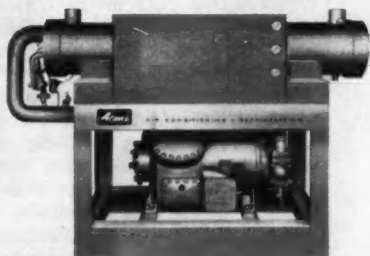
Flow Cold packaged water chillers—3 through 30 tons



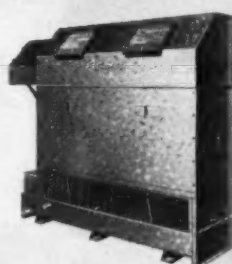
Flow Cold cooling towers—3 through 20 tons



Remote room conditioners—4 types in 16 models from 200-600 cfm



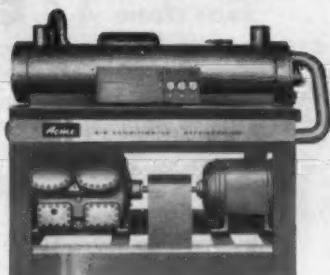
Model HE Flow Therm packaged water chillers—20 through 60 tons



Flow Mizer cooling towers—20 through 175 tons



Air handlers—4 types in 40 models from 665 to 19,200 cfm



Model DE Flow Therm packaged water chillers—20 through 125 tons



Flow Mizer evaporative condensers—Capacities to 200 tons

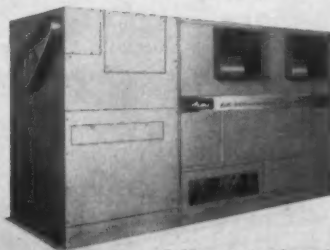


Multi-zone air conditioners—5 models from 4,060 to 19,200 cfm

SELF CONTAINED SYSTEMS



Self contained packaged air conditioners—5 models from 3 to 15 tons, air or water cooled



Self contained packaged air conditioners—24 models from 20 to 60 tons, air or water cooled

Hotpoint Sees 63% Growth In Sales Volume For Major Appliances Over Next 10 Years

CHICAGO—A 63% growth in major appliance sales over the next 10 years is forecast by the central market research department of Hotpoint Co.

Hotpoint predicts that 50 million people will spend more than \$40 billion on new kitchen-laundry appliances and room air conditioners in the forthcoming decade.

Over that period, says John F. McDaniel, general sales manager, the industry will ship 40,900,000 electric refrigerators, 10,720,000 food freezers, and 21,750,000 room air conditioners.

He sees sales averaging 4,100,000 refrigerators, 2,200,000 air conditioners, and 1,100,000 freezers annually.

Total sales for other appliances in the next 10 years should run about like this:

| | |
|---------------------------|------------|
| Electric Ranges | 11,800,000 |
| Built-In Ranges | 9,250,000 |
| Water Heaters | 8,025,000 |
| Dishwashers | 8,100,000 |
| Food Waste Disposers | 10,280,000 |
| Automatic Clothes Washers | 36,830,000 |
| Automatic Clothes Dryers | 12,450,000 |

McDaniel said that the forecast does not take into consideration new appliances as yet undeveloped or still in the laboratory stage.

"Five years ago, few predicted that air conditioners would play such an important part in the over-all sales pic-

ture in the major appliance market," he said. "Yet today, it is a vital fact in helping to round out dealer sales patterns." (Detailed forecast for room air conditioners will appear in the Jan. 26 issue.)

Hotpoint believes that by the end of this year, more than 50.5 million electric domestic refrigerators will be in use, representing a 99.5% saturated market.

Sales this year, the forecast says, will be 3,350,000 refrigerators, including exports, which will rise in 1963 to 4 million, and by 1968 to 4,850,000.

Hotpoint expects that 3,100,000 refrigerators will be sold in the United States this year. Of these, 54.2% will be replace-

Sales Prediction for Next Decade

REFRIGERATORS

(000 omitted on unit figures)

| Year | Wired Homes (Millions) | % Saturation | No. in Use | Net Growth† % | Replacements† % | Total Domestic Shipments | Total Industry Shipments* |
|------|------------------------|--------------|------------|---------------|-----------------|--------------------------|---------------------------|
| 1958 | 49.6 | 99.1 | 49,143 | 1,394 | 49.6 | 1,416 | 2,810 |
| 1959 | 50.8 | 99.5 | 50,563 | 1,420 | 45.8 | 1,680 | 3,100 |
| 1960 | 52.0 | 99.8 | 51,896 | 1,333 | 41.3 | 1,892 | 3,225 |
| 1961 | 52.9 | 100.0 | 52,900 | 1,004 | 29.5 | 2,396 | 3,400 |
| 1962 | 53.7 | 100.0 | 53,700 | 800 | 22.2 | 2,800 | 3,600 |
| 1963 | 54.6 | 100.0 | 54,600 | 900 | 24.3 | 2,800 | 3,700 |
| 1964 | 55.4 | 100.0 | 55,400 | 900 | 21.1 | 3,000 | 3,900 |
| 1965 | 56.3 | 100.0 | 56,300 | 900 | 22.5 | 3,100 | 4,000 |
| 1966 | 57.1 | 100.0 | 57,100 | 800 | 19.0 | 3,400 | 4,200 |
| 1967 | 58.0 | 100.0 | 58,000 | 900 | 20.5 | 3,500 | 4,400 |
| 1968 | 59.0 | 100.0 | 59,000 | 1,000 | 22.0 | 3,550 | 4,550 |

*Includes exports.

†See explanation in story.

FREEZERS

(000 omitted on unit figures)

| Year | Wired Homes (Millions) | % Saturation | No. in Use | Net Growth† % | Replacements† % | Total Domestic Shipments | Total Industry Shipments* |
|------|------------------------|--------------|------------|---------------|-----------------|--------------------------|---------------------------|
| 1958 | 49.6 | 20.7 | 10,286 | 877 | 83.5 | 173 | 1,050 |
| 1959 | 50.8 | 21.9 | 11,100 | 840 | 80.9 | 210 | 1,050 |
| 1960 | 52.0 | 22.8 | 11,833 | 727 | 76.5 | 223 | 950 |
| 1961 | 52.9 | 23.7 | 12,512 | 679 | 70.0 | 291 | 970 |
| 1962 | 53.7 | 24.5 | 13,182 | 670 | 67.7 | 320 | 980 |
| 1963 | 54.6 | 25.4 | 13,842 | 660 | 65.3 | 350 | 1,010 |
| 1964 | 55.4 | 26.1 | 14,487 | 645 | 62.6 | 385 | 1,030 |
| 1965 | 56.3 | 26.8 | 15,115 | 628 | 60.4 | 412 | 1,040 |
| 1966 | 57.1 | 27.5 | 15,728 | 613 | 58.4 | 437 | 1,050 |
| 1967 | 58.0 | 28.2 | 16,328 | 600 | 56.6 | 460 | 1,110 |
| 1968 | 59.0 | 28.7 | 16,921 | 593 | 55.4 | 477 | 1,120 |

*Includes exports.

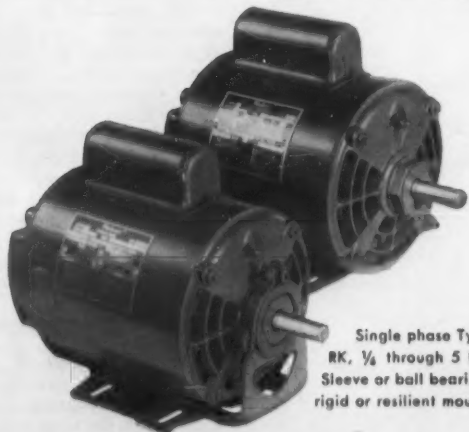
†See explanation in story.

Need all-angle operation?



WAGNER CAPACITOR-START MOTORS

operate in ANY position... provide dependable starting...
pack more power into less space!



Single phase Type RK, 1/4 through 5 hp. Sleeve or ball bearing, rigid or resilient mount.

Here's the answer for applications that require angle mounting of fhp motors. Wagner Type RK sleeve bearing motors, in fractional ratings, have a positive lubrication system that permits operation in any position.

You get quick, trouble-free starts—thanks to a Wagner designed quick break switch—and you get more horsepower with less bulk, for a better chance to lick those tough space problems.

You can get these motors from leading motor distributors in your community and from Wagner Sales Offices in 32 principal cities. Your Wagner Sales Engineer will be glad to help you select the right motor for your application. Wagner Bulletin MU-217 gives full details.

WM59-6

BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

Wagner Electric Corporation

6441 Plymouth Ave., St. Louis 14, Missouri.

SERVING 2 GREAT GROWTH INDUSTRIES...ELECTRICAL...AUTOMOTIVE

ments and 45.8% will represent net growth.

Hotpoint explained that net growth is the amount of increase in the number of refrigerators in use between one year and the next. Thus "replacement" figures include not only the number sold to replace present refrigerators but also the number sold to new owners to offset refrigerators that were scrapped and not replaced.

By 1968, the company said, 78% of the 4,550,000 units sold in the United States will be replacements and 24.3% will be net growth.

Hotpoint expects appliance manufacturers to ship 1,050,000 freezers this year in the United States. Eighty per cent of these will represent net growth and 20% replacements.

For reasons unexplained in the forecast, Hotpoint predicts that U.S. freezer sales will dip to 950,000 in 1960 and then very slowly rise until they reach present levels again in 1966.

As a result, by 1968, domestic freezer sales will number only 1,070,000. Replacement market however will have risen to 44.6% and net growth dropped to 55.4%.

Gas Home A.C. Grows

NEW YORK CITY—Year-end estimates place 1958 shipments of residential gas air conditioning units at approximately 7,800 units, compared with less than 2,500 units a year ago, the American Gas Association reported recently.

For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Only 25¢ each.

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SERVING THE METAL INDUSTRY FOR OVER A QUARTER OF A CENTURY

TECHNICAL CENTER

By Frank J. Versagi, Technical Editor

Accidents: Safety

A blast of ammonia in the eyes, an exploding refrigerant cylinder, festering sores around the fingernails.

These are accidents which occur in the cooling industry, injuries peculiar to the industry and different from the mechanical type like dropping a Prestolite tank on one's toe.

And a significantly steady percentage of the letters coming into the NEWS concern themselves with such accidents. A common characteristic of all these letters is the definite urgency and concern they manifest. There is nothing academic or theoretical about safety when it concerns you or someone in your employ.

Unfortunately, as is true of traffic safety, people normally tend to ignore industrial safety on the premise that accidents always occur to somebody else.

While the NEWS cannot act as an authoritative source of medical information, we have routed requests for information to appropriate agencies in specific cases.

A serviceman, working on an ammonia compressor was hit in the eyes with a blast of ammonia when a head gasket ruptured. Employer was concerned over "inadequate and unsure medical treatment" which didn't seem to be helping much.

At the NEWS' request, the American Medical Association, suggested the type of specialist for such cases and specified that contacting the nearest local or county medical society is the surest way to get proper medical help.

Also at the NEWS' request, American Red Cross repeated its recommendation for immediate first aid in clearing chemicals from the eyes and skin. Their recommendation is simple—copious irrigation of the area with plain water. Nothing else; merely flood the exposed parts with water. This rule applies to other chemicals encountered in the industry, sulfur dioxide, hydrochloric acid, carbon tetrachloride.

"We do not recommend first aid action beyond this. If the skin is involved, dermatologists should see the damaged areas at once; if the eyes are involved, ophthalmologists should be able to view the area without interference from topical medication," stated the Red Cross.

While the NEWS has been unable to find an authoritative source of statistics on accidents in the cooling industry, it is interesting to note that the general feeling is that most accidents are due to operator and serviceman carelessness, rather than to faulty equipment.

In direct contrast, a recent German survey of accidents in their refrigeration industry, places greatest blame on defective materials and equipment, while still recognizing the role of personal negligence as well.

A major source of danger, according to the German report, are faulty liquid line sight glasses. "Substitution of two pieces of normal glass for the

required thick piece of special glass," has caused many eye injuries, it is stated. "On top of that, many sight glasses are poorly assembled."

However, when a refrigerant cylinder blows because a man is heating it with a torch, it is impossible to blame the cylinder.

If, after all the warnings he has received over the years, a serviceman insists on handling parts from a burnout without rubber gloves or without at least coating his hands with grease or protective cream, whose fault is it that his cuticles fester or his nails drop off?

It would be unrealistic to hope that people will ever enthusiastically support and give thought to accident prevention and safety. Therefore, the task of safety committees, like that

of RSES, becomes to make available constant reminders, continual suggestions, repeated warnings.

If we ignore the "Stop, Look, Listen" sign at the crossing, who's to blame if we're rammed by a train?

Along this line, a new safety service offered by the National Association of Refrigerated Warehouses, Inc., Washington, D. C., is highly worthy of mention.

In a letter to members, A. R. Carstensen, chairman of the NARW safety committee begins, "Recently an NARW member wrote us about a serious accident that occurred at his plant. It so happened that we had experienced a similar, though less serious accident at our plant."

"The thought occurred to me that the accident which caused so much damage at the member's plant could have been

prevented had we passed along the information regarding the accident at our plant together with preventive measures we have developed to prevent its recurrence."

Promising anonymity to co-operating companies, Carstensen proposes a continual exchange of information on accidents which take place. Reports on significant accidents will be circulated among members so they can determine possible preventatives for the same type of occurrence at their plants.

The first such accident analysis has been issued by NARW. This is what it had to say:

Accident Analysis—Number 1 The Accident:

A refrigerated truck using an ammonia line hook-up was in position at the plant parking space provided for the truck. In the morning the driver started the motor and pulled away from the parking space without first

disengaging the ammonia line. The line was broken and the ammonia fumes penetrated the surrounding area.

The Damage:

Because of the fumes, the drivers of two cars in the vicinity were temporarily blinded causing the cars to collide. A public liability claim is pending.

Preventive Measures Suggested By Member Plant:

None.

Preventive Measures Suggested By Safety Committee:

When trucks are hooked up to refrigerating lines, place blocks in front of the wheels, engage the brakes, lock the cabs, and turn the keys in to the attendant in charge of refrigeration. Insist that the driver obtain keys from the attendant on duty whose responsibility it is to see that the lines are disconnected before the keys are relinquished.

Curtis

PACKAGED AIR CONDITIONING

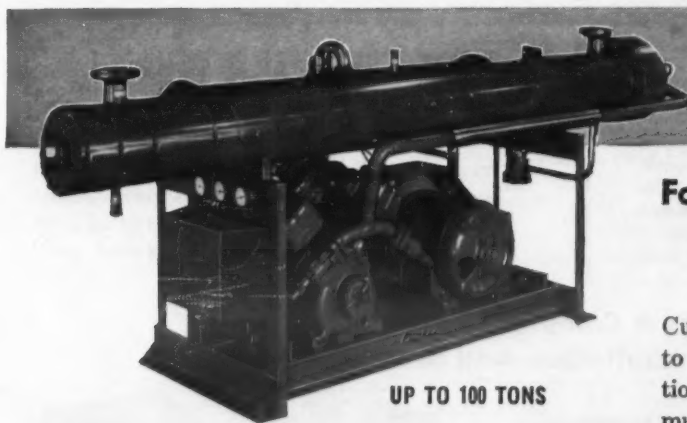
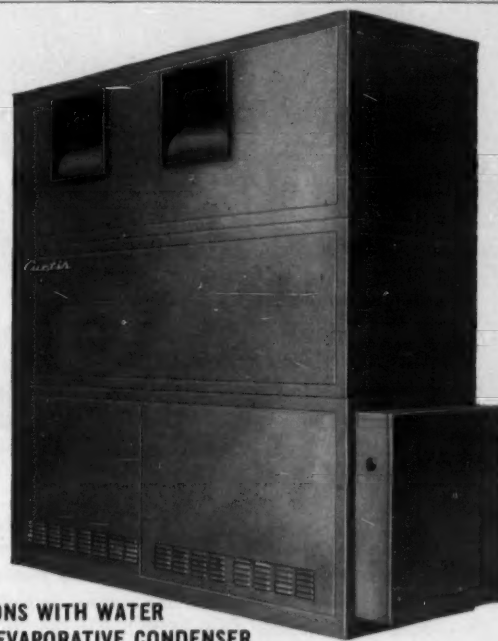
INSTALLATION EASIER: Line assembled at the factory—eliminates expensive field labor.

PERFORMANCE KNOWN: Curtis units are run-in at the factory and guaranteed to deliver their rated tonnage. Assures a **BALANCED SYSTEM**.

SUPERIOR EQUIPMENT: Long life, quiet, trouble free, economical operation.

DELIVERY ON TIME: Curtis can meet your delivery requirements, a decided advantage over multiple supplier delivery promises!

UP TO 100 TONS WITH WATER
COOLED OR EVAPORATIVE CONDENSER



PACKAGED LIQUID CHILLERS

For Air Conditioning Process Cooling Refrigeration

Curtis packaged liquid chiller lends itself to a widely diversified field of applications—air conditioning, refrigeration and a multitude of process cooling procedures. Available in capacities up to 100 tons.

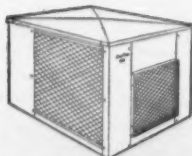
REMEMBER, you can count on

Curtis

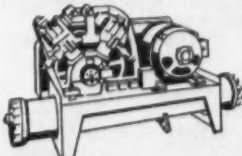
OUR 104TH YEAR

MANUFACTURING COMPANY • REFRIGERATION DIVISION

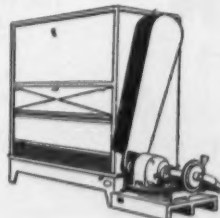
1912 Kienlen Ave., St. Louis 20, Mo.



Air Cooled Air Conditioning Units,
3-5-7½ tons. Residential and
commercial application.



Condensing Units
up to 100 tons.



Cooling towers and evaporating
condensers, air handling units
to match.

VISIT BOOTH 802
Heating & Air Conditioning
Exposition
PHILADELPHIA
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See our newly designed
packaged air conditioners
and liquid chillers

Service Is the Key That Lets You In Where Sales Begin, Lehman Tells NARDA

CHICAGO — Meeting the issues squarely, Herman F. Lehman, General Motors vice president and general manager of the Frigidaire Div., told members of the National Appliance & Radio-TV Dealers Association just where the corporation stood on such matters as responsibility for service, warranties, and frequent model changes.

In a part of his talk on the general retailing situation in the industry, Lehman discussed his viewpoints by putting himself in the dealer's place, so to speak, saying:

"If I were a dealer I would want to be responsible for service, either through my own operation or through another

recognized setup. However, if it was economically practical in my area to handle my own service, I certainly would want to do so. The handling of service would keep me close to my customers. And that's what I would want . . . customers who return to my establishment, not mere buyers.

"At Frigidaire we have a slogan that says 'Service is the key that lets you in to the place where sales begin,' and that's one of the reasons why we believe so deeply in service and why we have set up an extensive nationwide network of service training school facilities.

"If I were a dealer I'd see to

it that in my organization service was more than a job. I'd make it a state of mind.

"As a dealer I would insist on quality in the lines I handled. And I would train my salesmen to sell quality.

Customer Willing To Pay for Quality

"More and more the customer is looking for quality and performance. He is willing to pay for quality if it is properly explained to him.

"Furthermore, the customer has a right to expect certain minimum performance from any product he buys at any price. It is unfair to the customer to strip models down below these

Factors which Frigidaire's General Manager Herman Lehman believes point to improved conditions in retailing, and in over-all sales volume, were pointed up in his talk thusly:

- A growing recognition of the importance of salesmanship — professional selling. District managers who have daily contact with dealers and salesmen report a rising demand for sales training.

- An encouraging trend in the attitude of retailers everywhere — a new awareness that there is no easy way to do a hard job, that price alone will not always move goods.

- Inventories at all levels of distribution are more in line with demand than they have been for a long time, with manufacturers' production geared more closely to actual retail demand. In the changeover from 1958 to 1959 there has been less carryover merchandise.

- Consumer confidence in the new economy is a key factor. Current spending is evidence of the revival of this confidence. As this trend continues, sales efforts in the durable goods industries should result in increased volume. Major appliance business should be up about 7% this year.

minimums, and it is unwise for the retailer to put his name on such products.

"I think that is a good point to remember. In effect, the dealer's name is on every product sold, as well as the manufacturer's. And if I were a dealer I would want to protect my good name as one of my greatest business assets.

"As far as products are concerned, I would look not only for a manufacturer with quality standards, but also for one with progressive policies. I would want to offer the public the latest and best.

"And since the customer is looking for performance, I would want to sell products with basic improvements. Gimmicks and gadgets are not enough. I'd want a line with truly meaningful features and fresh, sensible, new ideas.

"If I were a dealer I'm sure I would realize that while I could not hold the manufacturer responsible for my business, I could expect him to provide me with sales helps and with general assistance in the over-all operation of my dealership.

Favors Continuing 1-Year Warranty

"There has been much discussion on the question of the length of warranties. Quite frankly, we at Frigidaire do not believe it is right, either from the standpoints of ethics or good business, to reduce warranties below the period we have today.

"We feel very deeply our responsibility to build quality products. Our aim is to reduce the need for service to the absolute minimum. Frigidaire refrigerators today require 45% (Concluded on next page)

To Dealers and Contractors who sell and install Residential and Commercial Air Conditioning:

only COOLERATOR gives you this 4-POINT PROFIT PROGRAM!

The Right Equipment Alone Isn't Enough—Each Of These 4 Points Is Essential For Greater Profits:

1 QUALITY!

You can depend on Coolerator quality to protect your profits. Careful engineering, proven components, precision assembly, and grueling testing of every unit cut service calls and assure complete customer satisfaction. Coolerator equipment has one of the best operating records in the industry.

2 FEATURES THAT SELL!

Your salesmen have outstanding product advantages to talk about with Coolerator. To help you close sales, the amazing LECTROFILTER® is the greatest single new feature since air conditioning was introduced! Special Permalife® finish gives unmatched weather protection. Easy installation, easy service whether remote or self-contained.

3 DIRECT FROM FACTORY PURCHASING!

Coolerator dealers buy direct from the factory! This assures a much higher gross and a brighter net profit picture. Yet Coolerator's field warehousing makes it possible to work with minimum inventories. And 47 strategically located factory authorized service depots provide prompt field service when needed.

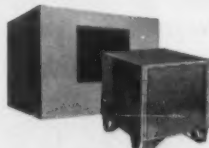
4 PROTECTED TERRITORIES!

A market area for every dealer or contractor—with territory protection—insures higher sales volume. Now, Coolerator offers you such protected territories! You can develop your market potential by selling quality and features—instead of price only. Every dealer knows that protected territories mean more full profit sales.

Coolerator Offers A Complete Line With Units Designed For Ease Of Installation And Service Accessibility



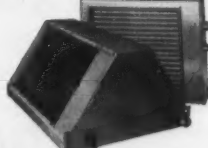
Self-Contained Models*
2, 3 and 4 hp sizes
*Decorative fronts optional



Heat Pump Models
3 ton remote system



Remote Condenser Sections
3, 4 and 5 ton sizes



Horizontal and Vertical
Coil Sections
3, 4 and 5 ton sizes



Blower-Evaporator
Coil Sections*
3, 4 and 5 ton sizes

COOLERATOR DIVISION

Albion, Michigan



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STREET _____
CITY _____ ZONE _____
STATE _____

DOES YOUR
APPLIANCE
CARRY THIS
Seal of
Quality?

★ The motor used
in this equipment
is protected against
overloads, low voltage,
over-voltage with
a Mighty Mite
★ Thermal Protector ★

MECHANICAL INDUSTRIES
PRODUCTION CO.

223 Ash Street • Akron, Ohio

Service--

(Concluded from preceding page)
less service than 10 years ago, and 63% less than 20 years ago. This represents real progress and we think it is the only approach to the problem.

"Shortening the warranty merely pushes off on the consumer some of the responsibility we feel is ours and the retailers."

"It could weaken one of the incentives a manufacturer has to produce better products. And it could reduce the opportunity the retailer has to maintain contact with customers and to continue to build the favorable reputation of his dealership."

"Honestly, I cannot help but feel that the one-year warranty is best for all concerned."

"There also has been considerable discussion of the question of obsolescence. Some people decry what they call 'planned obsolescence' or 'phony obsolescence.' Some manufacturers have said they will no longer have annual model changes."

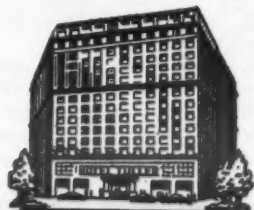
"We at Frigidaire are going to strive to make annual changes. There is nothing 'phony' about it, because no one can make a customer change against his better judgment."

"Our policy is to give the public what it wants, whether it is a major style improvement, or a functional improvement. Dynamic changes stimulate the entire organization, from our designers at the factory through to the retail salesmen."

"At the factory our policy keeps constant pressure on our product development people. I believe that progress results from the pressure system, not the anchor system."

"At the retail level you have to keep priming and keep merchandising to produce business, and dynamic improvements fit perfectly into this scheme."

"I'm sure that if I were a dealer I'd want to represent a manufacturer who was alert and progressive, and who was continually providing me with the kind of new products that would attract my customers."



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...featuring convenience, comfort, quality! A cosmopolitan atmosphere in home-like setting. In the center of all downtown activities. Newly decorated. Ultra modern, comfortable guest rooms... excellent food at moderate prices in our modern coffee shop and cafeteria.

Radio and Television in room.
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800 ROOMS
WITH BATH from \$4

GARAGE available at nominal charge. Free overnight parking for registered guests in PARKING LOT.

FAMILY RATES

No Charge for Children
12 and Under —

Harry E. Paulsen, General Manager
FACING GRAND CIRCUS PARK

DETROIT

WHAT... WHEN... WHERE

Industrial Heating Equipment Association Meeting
Jan. 19-20, Cleveland.

International Heating & Air Conditioning Exposition and Annual Meeting
Jan. 26-29, Convention Hall, Philadelphia.

Home Improvement Products Show
Feb. 4-6, Coliseum, New York City.

National Association of Frozen Food Packers Convention
March 1-4, Conrad Hilton hotel, Chicago.

Gas Appliance Manufacturers Association
April 1-3, Americana hotel, Bal Harbour, Fla.

Edison Electric Institute
April 5-9, New Orleans.

Oil-Heat Institute of America
April 29-May 4, Seattle.

Air-Conditioning & Refrigeration Institute
May 3-6, The Homestead, Hot Springs, Va.

American Society of Heating & Air Conditioning Engineers
June 7-11, Vancouver, B. C.

American Society of Refrigerating Engineers
June 22-24, Lake Placid Club, Lake Placid, N. Y.

Frozen Food Packers Announce Plans For Convention In Chicago March 1-4

WASHINGTON, D. C. — The other new developments. National Association of Frozen Food Packers has set as one of the principal goals of its 18th annual convention an increased understanding and cooperation between its members and other segments of the food industry. He said the planning committee is considering extending invitations to representatives of voluntary and cooperative chains asking them to participate in the meeting also. Martin said these groups have specific problems of which NAFFP members want to be aware.

This was announced by Lawrence Martin, NAFFP secretary-manager. The association's meeting will be held at the Conrad Hilton hotel, Chicago, March 1-4.

Martin said one step the convention planning committee has already made is to ask Rilea Doe, vice president of Safeway Stores, Inc., to address the meeting. Doe will fill the frozen food packers in on current thinking in the food chain industry about frozen foods and

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All H&M condensers feature wide spaced fins that won't clog as rapidly with dust or other air borne particles. The exclusive Turbu-Flo fin design adds surface area and improves heat transfer by up to 15%.

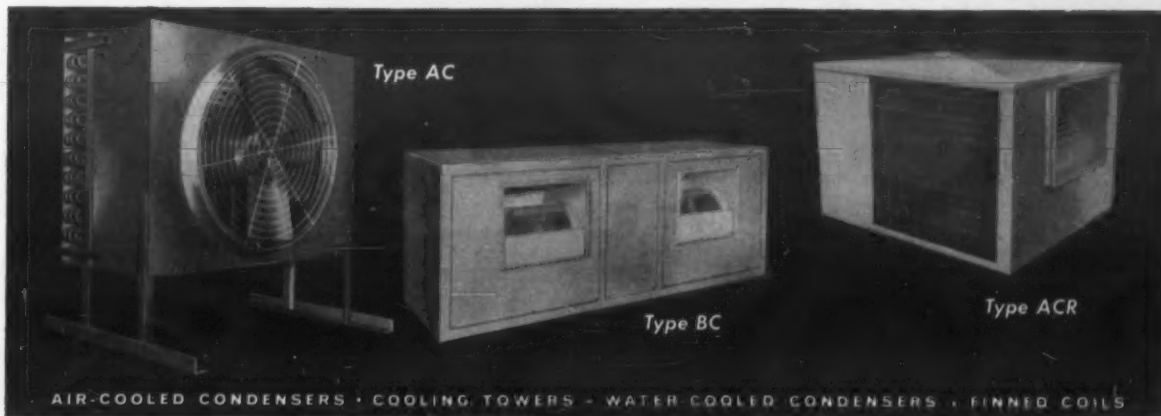
Large fans driven at low speeds assure quiet operation of even the biggest units. Multiple circuiting to meet the requirements of the individual job is furnished at no additional cost when specified. Casings are extra-rugged; won't rattle or loosen with use.

Type AC condensers are propeller fan models, normally installed on a roof, remote from the compressor. Single units are available in 5 to 50 ton nominal capacity. 60 to 100 ton capacity is provided through use of two smaller condensers supplied with necessary manifolding for easy field installation. Floor mounting is standard; ceiling mounting can be provided.

Type BC condensers are centrifugal models for indoor installations and where ductwork is required. Available in a wide range of sizes, Type BC units can be arranged to exhaust equipment room heat in summer, and to utilize condenser heat in winter.

Type ACR condensers are centrifugal fan units available in 2 through 7½ tons for residential air conditioning. Space is provided for compressor and controls.

Get complete information from your local distributor, or write Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.



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What's Going On in Commercial Refrigeration

News of Markets, Products, Methods

Diversified Lines

Some Points That Distributor Should Consider When Deciding Whether or Not To Handle Different Equipment

By George M. Hanning

MIAMI BEACH, Fla.—Should the commercial refrigeration distributor carry diversified lines? Do they answer the profit problem? What are the problems involved in taking on additional lines? What are the advantages and disadvantages of diversifying?

A group of contractors and manufacturers from various Commercial Refrigerator Sales areas of the country gathered Association here to air their views on diversified lines. After an hour's discussion,

the consensus was that diversification depended largely on the capabilities of the particular distributor. But if he does diversify, he should be very careful about what products he handles and what their effect will be on his organization.

Here are some of the points made by the participants:

John Staples, Sr., distributor in Tampa, Fla., said he believed

in handling only those lines that fit in with his particular capabilities. His is a small organization covering a large area sparsely populated.

"I feel that we should handle everything that goes into a food market so as to keep out competition. But I also don't want to add anything that would require an additional salesman to promote.

"For this reason I won't take on ice makers or air conditioning. To do that, I would have to add an engineer and serviceman. That's too much for my organization. I don't think I could make enough out of it to make it worthwhile."

Sid Taylor, distributor from Des Moines, Iowa, heads a large organization that is divided into eight separate divisions, ranging through commercial refrigerators, refrigerating machinery, air conditioning, counter equipment, butcher supplies, custom building, and used equipment.

There Are Safeguards In Diversification

"I believe a diversified organization such as this is very safeguarding for the long pull," he commented. "It gives you protection against loss of one particular business."

Don't sell the ice maker short, he advised his fellow distributors. That is going to be one of the biggest items in the business. There is an immense market for it, he said.

While he does the major share of his business with food stores, he does go into other small commercial establishments with air conditioning and into restaurants with walk-ins, reach-ins, and ice makers.

Emery Fowler, president of Fowler Equipment Co., manufacturer of walk-in refrigerators and custom refrigeration equipment, commented that diversification depended on the financial strength and the manpower capabilities of the distributor.

"The first thing necessary in your organization is a damned good accountant. This is the best investment you can make," he affirmed. "Next is a good sales manager."

Fowler suggested that it would be to the distributor's advantage to have a connection for florist boxes and other custom items.

Reese Harrison, president of Friedrich Refrigerators, Inc., said that he has seen good commercial refrigerator distributors diversify and get into lines they did not understand.

Then they run into troubles with unbalanced inventories, finances, and service.

"Even big men can spread themselves too thin," he warned.

"If you take on a good line with little service, you have a pretty good chance of success," he said.

Leon P. Krause, vice president of Coldin Cabinet Co., Inc., New York City, confirmed this.

New Lines Confuse Some Salesmen

"If you don't have tight inventory and profit control, you can get into trouble. New lines also confuse the salesmen. Educating them on the new lines is a big problem. Customers lose confidence in salesmen who are not familiar with what they are selling."

Dudley Cawthon, distributor in Miami, Fla., pointed out that additional lines give opportunities to fill in profit gaps and keep a good organization together.

But, he too, urged caution. "Don't add new lines too quickly. Keep in mind that they

In Eugene, Oregon

Tyler-planned and equipped for

"MAXIMUM OPERATING EFFICIENCY!"

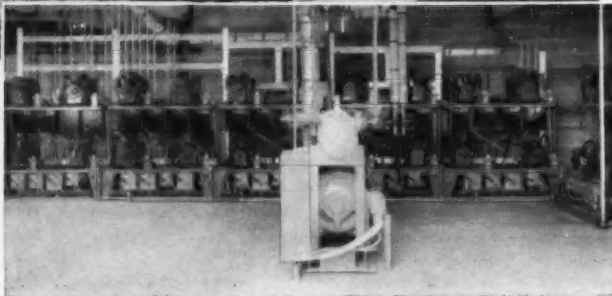


"...most modern, easy-to-shop supermarket in the Northwest... designed for maximum operating efficiency," say owners of Oregon's famed City Drive In Market. Tyler-pioneered no-glass, open-front Sales-Cases make it easier for shoppers to see, to reach, to buy more! Tyler drastically reduces upkeep expenses with lower condensing unit requirements that save up to 1/3 on electric current alone. Balanced refrigeration performance! Dozens of other Tyler extras that save steps, cut costs, boost sales. Get all the facts. Make comparisons! Check construction, performance, all the way through. Call your Tyler Distributor today!

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TYLER-EQUIPPED ALL THE WAY with complete installation of Frozen Food; Ice Cream; Meat; Produce; Dairy Sales-Cases—Walk-In Coolers, Freezers.



BALANCED REFRIGERATION PERFORMANCE. Tyler Multiple Condensing Unit Assemblies cut costs, save floor space, insure better performance. Completely engineered at Tyler factory.



FASTER, EASIER REAR LOADING with modern Tyler Meat Sales-Cases. Tyler Rolling-Cold Packaging Conveyors (rear) cut costs, boost pre-packaging efficiency, safeguard meat quality!

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TYLER REFRIGERATION CORP., Niles, Mich.
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Tyler Refrigeration Corporation, Dept. AB1, Niles, Michigan.
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Cooler ☐ Condensing Unit Assemblies ☐ Shelving ☐ Checkouts
☐ Color System ☐ Store Planning ☐ Reach-ins ☐ Storage Freezers
☐ Walk-In Coolers ☐ Shopping Carts ☐ Rolling-Cold.
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ADDRESS _____

Officers, Directors of NCRSA



DIRECTING THE AFFAIRS of National Commercial Refrigerator Sales Association for 1959 are: (top, l. to r.) directors Wilbur S. Hoyt of Lecompte, La.; J. D. Gardner of Nashville, Tenn.; H. E. Humphreys of Concord, N. H.; A. J. Deal of Jacksonville, Fla.; George A. Lucas of East Hartford, Conn.; and Max B. Udell of Grand Rapids, Mich. (bottom, l. to r.) Donald Denny, Dayton, third vice president; Dudley Cawthon, Miami, Fla., second vice president; Milton I. Schwartz, New York City, president; Marie Lawton, Philadelphia, executive secretary; and E. B. Ward, South Bend, Ind., treasurer. Ray Winther, San Francisco, first vice president, was not present.

Handling Diversified Lines--

(Concluded from preceding page) will sell to us, we do not want to have anything to do with him. "Don't take on more than one good line at a time. Give it time to work itself into your operation."

"Salesmen are only interested in selling high dollar items. If he gets too many items to sell, he gets confused, or he concentrates on particular items that he likes to sell or makes the most money on."

Taylor added that the distributor is usually all right when he takes on items related in some way to the refrigeration cycle.

It's when he expands into such items as scales, heat sealing machines, etc., that he gets into trouble.

There's not much profit and plenty of service headaches, he warned.

Donald Denny, distributor from Dayton, Ohio, commented that he works closely with another businessman who handles lines that are related but not competitive with his. Between them they can take care of the complete store installation.

"We tried to sell heat sealing machines at one time," he noted. "We had two out on trial but the sales bounced. The salesman had not properly explained their operation and use."

Cawthon observed that he will order all the equipment needed for a supermarket, but doesn't stock any item outside his own field.

He further commented that building a good service and installation department is the

toughest part of a distributor's job, but it is the best thing he can do.

"It took us eight years to get the right men in the right jobs," he affirmed, "but it was worth the effort."

"We have to charge \$7.50 an hour for service. But we justify it by giving good service. The independent serviceman will just keep the market operator's equipment running and no more. It deteriorates rapidly under that type of service."

"If we have a callback, the service manager checks into it. If there is a second callback, the service manager goes out on the job."

"A third callback demands a meeting between the service manager, the serviceman, and the vice president in charge of operations. It's that serious."

"Customers are hard to come by," he noted. "If you give them good service, you've got 'em."

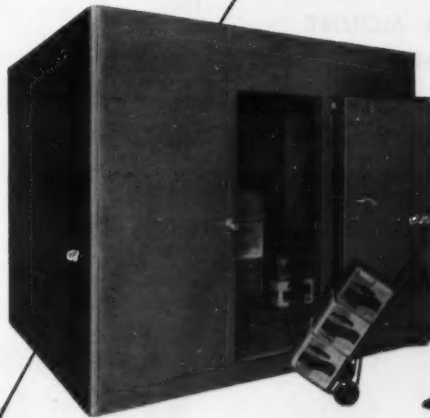
Drayer-Hanson Unit Volume Up 14% on Refrigeration Items

LOS ANGELES—Air conditioning manufacturer Drayer-Hanson's re-emphasis on refrigeration products in 1958 (evidenced late last spring by the appointment of Frank Chambers to head up a newly-organized section of the firm's sales department), has increased unit volume of refrigeration products sold by some 14%, comparing calendar year 1958 with 1957.

Contributing factors were pointed out by D-H's assistant sales manager, Wm. Keichline, to include basic re-engineering and design improvements in several products; a flow of new product additions to company lines; and accelerated appointment of new sales agents who are refrigeration specialists.

MORE FOR YOUR CUSTOMER'S MONEY and A FULL MARK-UP FOR YOU WHEN YOU SELL—

Gloekler



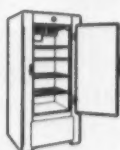
Gloekler Walk-In Cooler Steel Clad Add-to Construction

As a pioneer designer and builder of commercial refrigerators with more than 50 years of experience, Gloekler offers these important advantages:

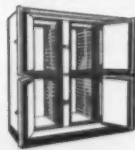
- Your customers get not only the finest in construction materials and design, but the all-important benefits the industry's most advanced skills and facilities can offer.
- Competitive pricing.
- Written warranty of efficient performance.
- As a Gloekler dealer you are protected on every transaction in your area, and get conscientious factory cooperation in maintaining good customer relations.
- Additional profit through sale of add-on features.

Yes, there's more for your customers and more for you in every Gloekler unit you sell.

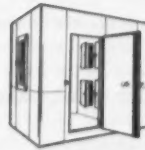
STANDARD AND CUSTOM DESIGNS FOR EVERY COMMERCIAL AND INSTITUTIONAL USE!



Reach-In



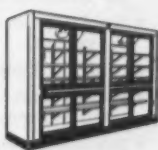
Bakery Freezer



Display Walk-In



Remote Reach-In



Wall Case

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Jarrow Gaskets, to your exact specifications, are available in all these materials or combinations:

Jarene-B—the new, tough, flexible vinyl plastic extrusion that can't crack, check, or oxidize—grease resistant—long wearing—easily cleaned!

Rubber—in any extruded form—as a rubberized fabric—or sponge rubber, which is ideal as a combination with either plastics, rubber extrusions or fabrics.

Others include Neoprene Fabric and Waterproof Cotton Webbing.



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Brinkoeter of Friedrich Retires

SAN ANTONIO — Friedrich Refrigerators, Inc. announced that Julius Brinkoeter, first vice president and a pioneer in the development of modern commercial refrigeration, will retire after 35 years with the company.

Friedrich also said that Brinkoeter will be retained as an advisory consultant. He began with Friedrich as a plant worker in July, 1923 and was named first vice president in December, 1955.

Among developments which he supervised, originated, or was instrumental in developing, it was noted, "are the reverse-cycle defrosting system, the 'FloatingAir' principle which puts the blanket of cold air over produce and meats in reach-in cases, and the development of open, self-service meat cases."

Brinkoeter was instrumental

in forming and setting up Friedrich's first engineering department, supervising installation of the company's baked enamel production line, one of the industry's largest, and in pioneering the company's new policy of factory-to-supermarket delivery of complete refrigeration systems by company trucks, it was further noted.

Friedrich Refrigerators has long been a family affair to the Brinkoeters. Julius' brother, Paul, recently announced his retirement after 40 years with the company and another brother, Clinton, is still with the company.

Brinkoeter says he intends to maintain his many friendships and contacts in the food field throughout the world and, other than that, has few plans, "... except to avoid work and improve my golf game."

N.J. Town May License Milk Vendors, Cubers

PALISADES PARK, N. J.—At the Feb. 3 meeting of the Board of Health, an ordinance requiring licensing of milk vending machines in Palisades Park will be given a public hearing and considered for final passage.

The measure was introduced and passed on first reading at a recent board meeting. It is a supplement to the borough's ordinance regulating the sale of milk and cream.

A \$25 fee will be charged for an annual license. The ordinance says a licensee may remove a licensed vending machine and substitute a similar one.

Under the ordinance, milk products sold in such a machine must be from a source approved by the Board of Health and the supply must be changed daily. Also, the interior must be constructed so that it can be readily cleaned and kept clean.

The refrigerating unit must be of sufficient capacity to keep contents of the machine at 50° F. or below. The machine must be equipped with an automatic cutoff that locks the machine if temperature of the milk storage compartment goes above 50°.

Tyler Thumps for More Professional Selling

NILES, Mich.—A series of two-day regional sales meetings of the nationwide Tyler distributor sales and service organization and Tyler divisional field men is being held during January by the Tyler Refrigeration Corp., it was announced by Robert L. Tyler, president.

"More Professional Selling" is the theme of the meetings which began at the Four Flags hotel in Niles, Jan. 8.

Other meetings were scheduled as follows: Jan. 15-16, at Park Sheraton hotel, New York City; Jan. 22-23, at the Texas hotel, Fort Worth, Texas; Jan. 26-27, at Leamington hotel, Oakland, Calif.

Greer, Freezing Equipment Join Forces

YORK, Pa.—Under an artistic continuous production arrangement announced by J. W. Greer Co. of Wilmington, Mass., Freezing Equipment Sales, Inc. specializes in industrial Inc. here, the firms now offer a processing refrigeration. It represents York Corp. as an industrial associate, and is national Greer manufactures automa-

representative of Fuller Co.

Teamwork Makes More Money For COLDIN DEALERS



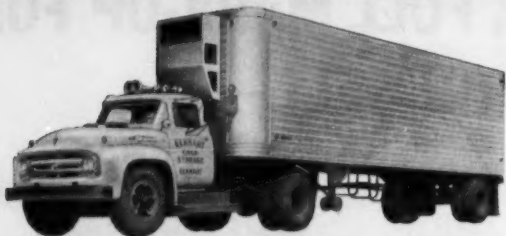
No other manufacturer of commercial refrigeration can offer the important advantages that come with a Coldin Franchise. You have the greatest line to choose from... world's finest quality plus close, personal co-operation. Earns dollars, makes sense too! Inquire!



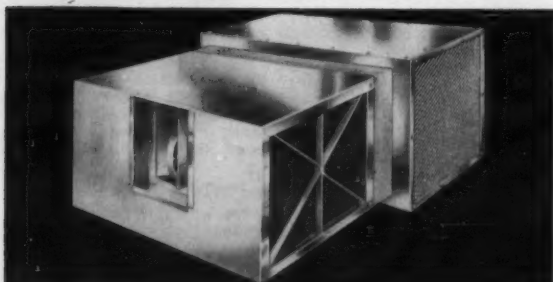
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CABINET CO., Inc.
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FOR UNDERFRAME OR NOSE MOUNT



Completely electric... Powered by a heavy duty, light weight, engine-mounted generator... Same type of power as nighttime plug-in... Full capacity hermetic compressor.

- Blower coil, Cold-Cel Holdover Truck Plates or Truk-Cel Eutectic Blowers can be used.
- Heat-Cel Automatic Hot Gas Defrost on low temperature blower coil systems.
- Heating available for winter.
- Auxiliary truck-mounted electric equipment (pumps, hoists, lights, etc.) operated from same power source.
- Only standard electrical and refrigeration circuits used.

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BEVERAGE COOLERS
unexcelled storage capacity with Ice Cube Makers
OUTSTANDING SECTIONAL METAL WALK-IN COOLERS

IDEAL
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Only **Freez-King** has
One Motion Control and Moto-Magic Mix Feed!



LARGE CAPACITY
for Higher Gallonage Locations



MODEL 411
New large drive-in capacity

SIMPLEST TO OPERATE... ONE MOTION

- Starts Beater-Motor • Dispenses Product
- Activates Moto-Magic Feeding Device

A FREEZ-KING DESIGNED WITH YOU IN MIND



All models are commercially built for many years of service. Beautiful, stainless steel cabinets. Firmer product. Exclusive territories available to master distributors and dealers. Write **FREEZ-KING CORPORATION**, 2818 W. Montrose Avenue, Dept. A, Chicago 18, Illinois.

Defrosting Commercial Cases

ASRE Hears of Day When Humidity, Rather Than Time, Will Determine Frequency of Defrosting

NEW ORLEANS — "One defrost every 20 days; four defrosts per day."

These are the extremes of conditions under which commercial refrigeration cases must operate in various locations throughout the country, according to P. P. Omelanchuk, assistant chief engineer, Schaefer, Inc., who addressed the 45th semiannual meeting of the American Society of Refrigerating Engineers here recently.

Citing the effect of proper fin spacing on defrost performance, Omelanchuk predicts the day when a new defrost control will "take defrosting out of the hands of time and into control by humidity."

He showed how the proper staging of fin effect with wide fin spacing on the inlet end and close spacing on the outlet end allows an increase in performance under high humidity or frost-forming conditions.

Design and location of the coil—and its fins—are but part of the problem of obtaining peak performance from commercial display cases, according to B. L. Hermann, chief refrigeration engineer, Refrigerated Cabinet Div., Anheuser-Busch, Inc.

Air Distribution Important Factor

Equally important and dependent in part upon the coil performance, is the adequate and even distribution of air throughout the length of the case, he claimed.

High-pressure plenums, perforated plates, and multiple fans blowing against spreader baffles were listed as methods of obtaining even distribution. "Remember to avoid turbulence at all costs, especially in the upper layers."

"I believe," admitted Hermann, "keeping the cases closed would solve most frost problems. But this can't be done for the simple reason that these cases are designed for merchandising and easy accessibility of the product."

Defrosting Must Be Complete

When considering the defrost problem, the entire picture must be visualized. This means that the defrost must be complete, not only on the coil but throughout all the ductwork and on the drain.

It is useless to defrost the coil and ductwork only to have water freeze in the drain on the next cycle of the unit.

Unfortunately, he opined,

only field testing can determine the optimum defrost principles and procedures and the most effective air flow characteristics. In the final analysis, after all engineering has been done, we still need cut-and-try procedures to establish the final design, he stated.

Unfortunately too, he concluded, compressor sizing is often dictated by competition rather than by sound engineering.

Briefly reviewing the several common methods for defrosting commercial cases, J. H. Rainwater, chief engineer, The Warren Co., Inc., offered calculations proving that the condensing units must have capacity to

remove heat added by the defrost cycle itself.

"In any defrost period, the walls and component part of the unit would absorb heat. This heat must be removed before the case can resume its basic function of holding product temperatures," he explained.

"Open display cases are probably the most inefficient boxes in existence. Compressor capacity must be up to five times what it would have to be if we were merely interested in product protection and not in a merchandising, money-making display case," emphasized D. A. Voorhies, C. V. Hill & Co., Inc.

Voorhies reviewed airflow in typical commercial cases. He

sighted 40-60 f.p.m. airflow across the top of horizontal display cases; air velocities of 35-45 f.p.m. in a cascade or multiple shelf type dairy case; and velocities up to 250 f.p.m. in the completely open air screen or air curtain type.

"Velocities up to 600 f.p.m. are required if the air movement is upward rather than downward," instructed Voorhies.

"All this is very inefficient; however, the merchandising value of the display cases more than makes up for the inefficiency."

"In smaller stores with lots of cases, we have seen instances where air conditioning was not required since air diffusion from the large number of display cases was enough to handle the small air conditioning load. We may also see the day when heating of such smaller stores will be accomplished by condenser heat."

Explaining that it is impossible to move cold air with its higher density without picking up some room air and therefore causing some spillage and tumbling, he showed that very few open cases will work well at ambients above 85° F. "90° F. is way too high."

On the subject of even air flow throughout the case, he insisted that velocities should be within 10 to 15 f.p.m. along the entire length of the case. Better air flow can create optimum performance, call for less defrost, and increase compressor capacity, he claimed.

In answer to a question, Voorhies generalized that a 12-ft. air curtain type dairy product display case would take a 3-hp. water-cooled unit; a cascade or multiple shelf type dairy display case would take 2 hp. Frozen food horizontal type cases would take 1½ hp.; used for ice cream they would need 2 or 3-hp. units.

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The Consulting Engineer's Column

Aim of this column is to present information of particular and current interest to Consulting Engineers, and those active in application engineering work generally. The editors invite contributions to the column from all who are engaged in such activity.

Determining Certain Qualities of Air

By Joe H. English

Determining certain qualities of air can be greatly simplified through using two air volume charts which the writer developed especially for air conditioning work. They will be found to be of considerable assistance on any job that involves heating, cooling, dehumidifying, or humidifying.

The charts can be possibly better utilized if the reader knows and understands how they were developed. As has been established, the total heat is the sum of the sensible heat plus the latent heat. It was from the formulas for determining these heats that the two separate charts were developed. One chart is for latent heat and the other for sensible.

According to formula, the total B.t.u. per hour sensible is equal to the density of the air times the specific heat of the air times 60 minutes per hour times cubic feet of air per minute times the difference in Fahrenheit degrees dry bulb between the room air and the air entering the room. This becomes: $(0.07495) \times (0.2411) \times 60 \times \text{c.f.m.} \times \text{TD}$ or $1.085 \times \text{c.f.m.} \times \text{TD}$. It was from this formula that the sensible heat air volume chart was developed.

The total B.t.u. per hour latent is, according to formula, equal to the difference in absolute humidity between room air and the air entering the room in grains per pound divided by 7,000 grains per pound times latent heat of evaporation times the density of the air times 60 minutes per hour times the cubic feet of air per minute or $(\text{AHD}/7,000) (1,050) (0.07495) (60) \text{ c.f.m.}$ This becomes: $\text{AHD} \times 0.0674 \times \text{c.f.m.}$, and it was from this formula that the latent heat air volume chart was developed.

EXAMPLE 1: The latent load is 5,000 B.t.u. per hour. The absolute humidity difference is 180 grains per pound. Find the air volume.

Solution: From the latent chart, a difference in humidity of 180 grains per pound is found to be 12 cu. ft. of air per minute for each 10 B.t.u. per hour latent load.

$5,000 \div 10 \times 12$ equals 6,000 c.f.m.

EXAMPLE 2: To cool a building, the internal sensible heat gain is found to be 180,000 B.t.u. per hour. The inside design temperature is 78° F. dry bulb, and the desired tempera-

ture of the supply air is 59° dry bulb. Find the volume of air required.

Solution: 78 minus 59 is 19° difference. From the sensible chart, for a temperature difference of 19°, 4.8 c.f.m. of air is required for each 100 B.t.u. per hour internal sensible heat gain.

$$\text{c.f.m. equals } 4.8 \times \frac{180,000}{100}$$

or 8,640 c.f.m.

EXAMPLE 3: The air supply is fixed at 2,000 cu. ft. of air per minute. The latent heat load is 1,800 B.t.u. per hour. Find the required humidity of the supply air in order to maintain 80° F. dry bulb and 50% relative humidity.

Solution: From Psychrometric Table, the grains per pound of the room air would be 77.21. The cubic feet of air per minute per 10 B.t.u. per hour latent is 2,000 divided by $1,800 \times .1$ or 11.1. From chart (latent), 11.1 c.f.m. per 10 B.t.u. per hr. latent is found to be 166 grains per pound of dry air difference in absolute humidity.

166 minus 77.21 equals 88.79 grains per pound absolute humidity required for supply air.

EXAMPLE 4: To heat a building, the heat loss is found to be 375,000 B.t.u. per hour. There will be 8,000 cu. ft. of supply air per minute. Find the air supply temperature necessary to maintain 70° F. dry bulb inside.

$$\text{Solution: } \frac{8,000}{375,000} \times 100 \text{ equals } 2.18$$

From the sensible chart, for 2.18 c.f.m. per 100 B.t.u. per hour, the temperature difference is 41° F. dry bulb.

41 plus 70 equals 111° F. for the supply air temperature.

EXAMPLE 5: To heat a building, the heat loss is found to be 450,000 B.t.u. per hour. The supply air temperature will be 120°, and the room design temperature is 74° F. Find the volume of air required.

Solution: 120 minus 74 equals 46° temperature difference. From the sensible chart, for a temperature difference of 46°, the c.f.m. per 100 B.t.u. per hour is 1.95.

$$\text{c.f.m. equals } 1.95 \times \frac{450,000}{100} \text{ or } 8,775 \text{ c.f.m.}$$

EXAMPLE 6:

Known: (1) Sensible and Latent heat gains
(2) Absolute Humidity difference between room air and entering air

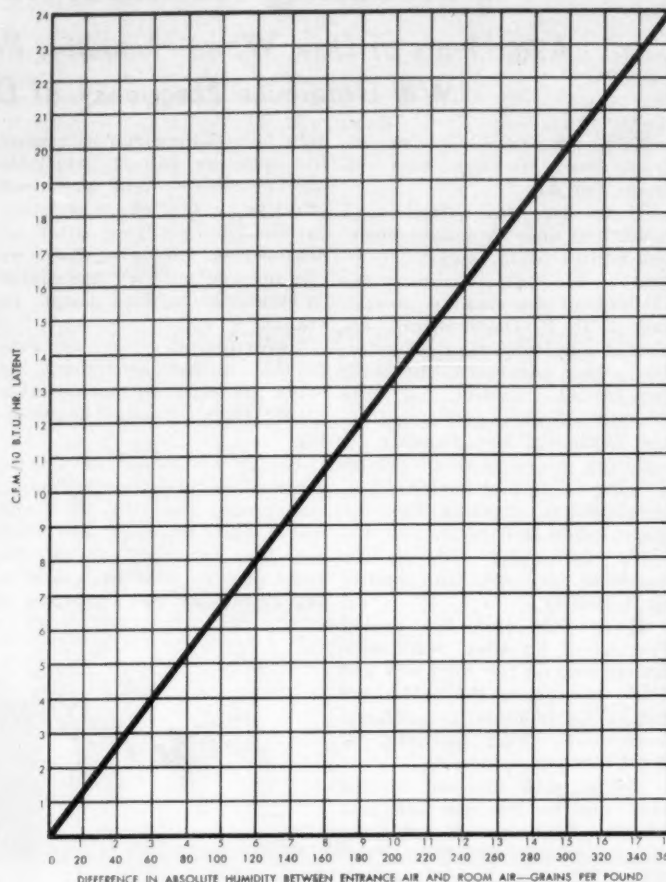
Find: Degrees dry bulb difference between room air and entering air

Solution: (1) Using latent chart, enter B.t.u. per hour latent and difference in the Humidities and find the c.f.m.
(2) Using sensible chart, enter B.t.u. per hour sensible and c.f.m. to find the answer.

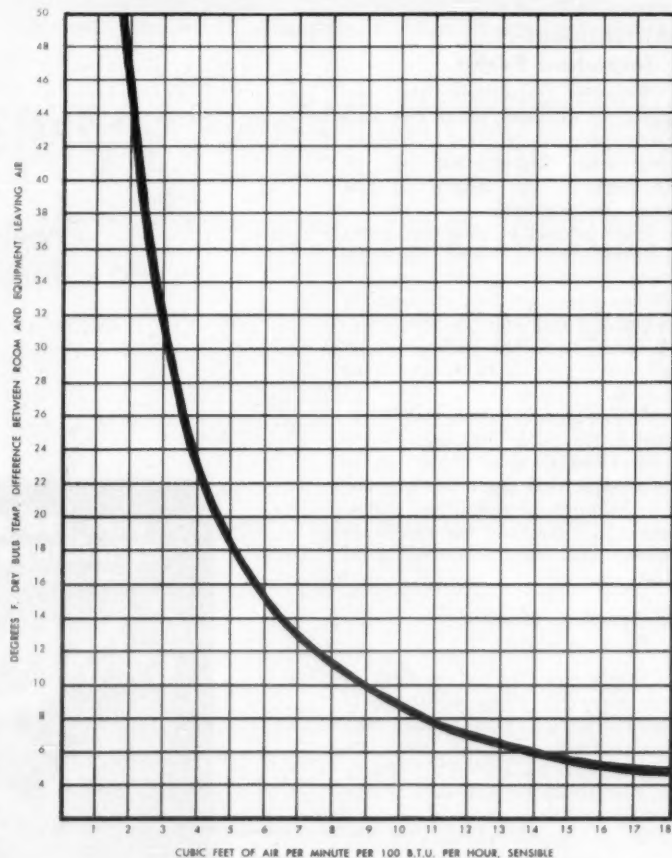
EXAMPLE 7:

Known: (1) Dry bulb temperature of supply air

Air Volume for Humidifying or Dehumidifying



Heating or Cooling Air Volume Chart



(2) Sensible and latent heat gains
(3) Degrees dry bulb difference between room air and entering air

Find: Absolute Humidity of supply air

Solution: (1) Using sensible chart, enter B.t.u. per hour sensible and difference in degrees dry bulb between room air and entering air. Find c.f.m.

(2) Using latent chart, enter B.t.u. per hour latent and above c.f.m. Find difference in absolute humidity.

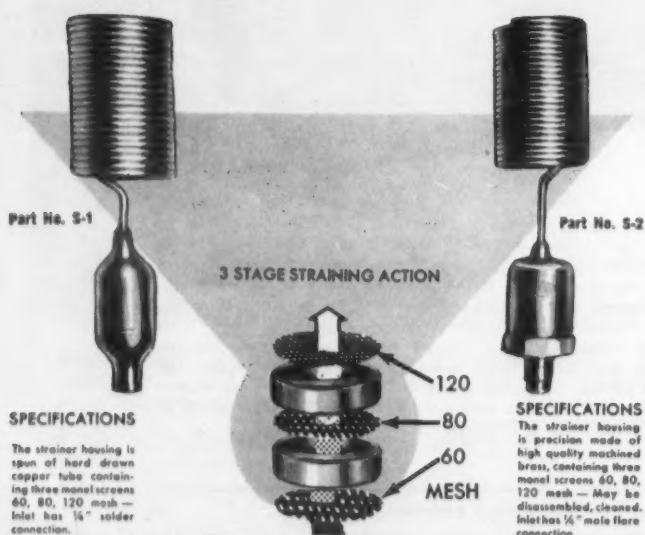
(3) Add (or subtract) the humidity difference to (or from) room humidity to determine the required humidity of the supply air.

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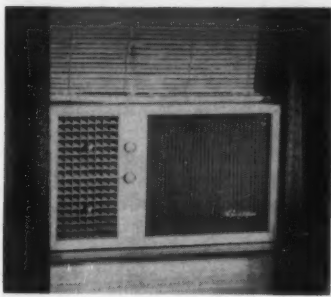


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WATSCO INC.
1020 EAST 15th STREET, MIAMI, FLORIDA



Remington El Dorado Lo-Narrow Series.

Remington --

(Concluded from Page 1, Col. 5)
Remington last June, we will build all our 1959 air conditioners so as to satisfy the maximum 1956 ARI performance standards, rather than the less severe tests required under the 1958 ARI standards or the recently announced NEMA standards," Herbert L. Laube, Remington president, stated.

Details of the 11 models which constitute the 1959 window unit line follow:

| EL DORADO SERIES | | |
|------------------|--------------------|----------|
| Model No. | | List |
| 7J2 | 1-hp., 115/60/1 | \$289.95 |
| 8J62 | 1-hp., 115/50-60/1 | 309.95 |
| 9J43 | 1-hp., 230/50-60/1 | 309.95 |
| 12J4 | 1-hp., 200/50/1 | |
| MARK 4 SERIES | | |
| 9H62 | 1-hp., 115/50-60/1 | 329.95 |
| 9H43 | 1-hp., 230/50-60/1 | 329.95 |
| 12H4 | 1-hp., 200/50/1 | |
| POWER HOUSE | | |
| 13H3 | 1½-hp., 230/60/1 | 369.95 |
| 16H3 | 1¾-hp., 230/60/1 | 399.95 |
| 17H4 | 1¾-hp., 230/50/1 | |
| 20H43 | 2-hp., 230/50-60/1 | 439.95 |

ARI Ratings--

(Concluded from Page 1, Col. 3)
tributed through Better Business Bureaus. Publicity will inform the public that copies are obtainable direct from ARI in Washington if unavailable locally.

The directory, which lists 30 companies as participating in the program, (a 31st—Curtis Mfg. Co.—has joined since the directory went to press), carries the B.t.u.h. ratings of the unitary equipment produced by 20 of these. These ratings will be published in the Jan. 26 issue of the NEWS.

The data on the others, who have signed to participate in the program but had not yet provided the test data at the time the first edition of the directory went to press, will be included in subsequent supplements, to be issued on a monthly basis, as required.

This program is based on firm, enforceable contracts, under which the seal of certification may be withdrawn if equipment does not meet the claimed ratings, the ARI said. It is not a "voluntary" program, once a contract to participate has been signed.

Uncle Sam Wants Scientific Director

NATICK, Mass.—The U. S. Army Quartermaster Research & Engineering Command announced that it is seeking candidates to fill the post of scientific director.

Degrees and top level experience in physical sciences or engineering are required. Inquiries or Federal Employment Application Form 57 are invited before Jan. 31.

Charleston --

(Concluded from Page 1, Col. 4)
given licenses only if an officer, employee, or agent qualifies. A firm maintaining "more than one establishment, branch, or outlet" must employ a separate license holder for each one.

Initial license fee is \$100, and annual renewal fee is \$25. Examinations are conducted and licenses awarded by a five-man board of examiners that includes the building inspector,

'Do-It-Yourself' Boys Are Target of Denver Ordinance

DENVER—The city council has passed an ordinance which prohibits issuance of building permits to homeowners who want to do their own installing of plumbing, heating, electrical, natural gas, or refrigeration and cooling systems.

The legislation is aimed at "do-it-yourself" installations which, according to Don Harter, chief city building inspector, are often inexpertly and hazardedly done.

Harter said this type of work can be done legally in the future only by licensed contractors. As a matter of practice, the department has not been issuing permits to unlicensed people to do this work. The new ordinance actually prohibits such permits under the building code.

chief fire inspector, and three contractors appointed annually.

Present board members are Wm. E. Kirk (building inspector), president; Irving Abrams, secretary; J. W. Britton (chief of fire prevention bureau); E. W. Tabor; and M. Kryzak.

A "grandfather's clause" of the city ordinance permits granting of licenses without passing the examination to persons or firms who can prove they were engaged in the business of a warm air heating contractor for a year prior to the

passage of the ordinance, which was adopted Sept. 15, 1958.

An examination fee of \$5 is charged.

Permit fee for replacing a furnace without changing ductwork is \$3.

For new installations the permit fee is \$1 for the furnace plus \$1 each for ductwork openings up to and including five with 25 cents additional for each opening above five.

Contractor licenses can be revoked by the board of examiners on any of several counts: conviction of violation of the ordinance; fraudulent use of license; incompetency; fraud or misrepresentation in obtaining license or permits; refusal to conform to requirements.

Utah License Applicants Must All Take Exam

SALT LAKE CITY—All new applicants for contractor's licenses in Utah must now take examinations, it was announced by John H. Chase, administrator, Dept. of Contractors, State Business Regulation Dept.

During its first full year of operation, Chase said, his department issued about 4,000 contractor's licenses without examinations. However, the applicants had to prove financial responsibility, experience, ability, and moral qualifications.

Various trade organizations have cooperated with the contractors department in writing the examinations which now must be taken.

Chase explained that the exams require demonstration of ability to handle contracting jobs in such fields as air conditioning, plumbing and heating, electrical, and many others. Also included are general questions regarding state and Federal laws governing their operations and employment.

The application fee for a new contractor remains the same, \$50, as will the \$15 fee for renewal of a license. A penalty of \$15, plus the \$15 renewal fee, is required where renewal applications are not received by Dec. 31.

Philadelphia Exposition --

(Concluded from Page 1, Col. 4)
position manager.

It will be held under the auspices of the American Society of Heating & Air-Conditioning Engineers in conjunction with its annual meeting at the Bellevue Stratford hotel.

Doors will open at noon, Monday, Jan. 26 and close at 10 p.m. The same schedule will apply for each day of the show. Admission is free to registered visitors only. Registration is at the door.

Highlights of the exposition will include premier trade showings of many 1959 products, educational displays to explain the how and why products work the way they do, and entertaining attractions.

A list of exhibitors with the booth numbers was published in the Dec. 29, 1958 issue of

the NEWS. Since then, a number of changes have been announced.

Added to the list (with booth number) are:

Air-Conditioning & Refrigeration Institute 320
Electrol Burner Mfg. Co., Inc. S-9
Ruoff & Sons, Inc. S-112
Stockmeister & Prins . S-97
Stokes Corp., F. J. S-6

Removed from the list are: Philip Carey Mfg. Co., Dielectric Products Co., Mathes Co., Inc., and Rite Engineering & Mfg. Co., Inc.

Industrial Acoustics Co., Inc. has shifted its space from booth 414 to 1009. Howell Electric Motors Co., Kingston Conley Inc., and Ohio Electric Mfg. Co. have moved from space S-97 to S-89.

Baltimore Aircoil, Stokes Announce Booth Plans

(Additional Booth Stories Appear on page 26)

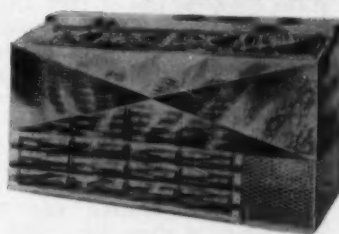
PHILADELPHIA—The new Stokes small compound high vacuum pumps in the 2 to 3 c.f.m. range which have just been introduced by the company and which are especially suitable for drying and evacuating refrigeration and air conditioning condensers, will be exhibited to the trade for the first time at the 14th International Heating & Air Conditioning Exposition, according to F. J. Stokes Corp. here.

Stokes will also exhibit its McLeod-type high vacuum gages used in the refrigeration industry.

BALTIMORE—Baltimore Aircoil Co., Inc. announced that it will display an FT3 "Flexi-Tower" along with blow-through and draw-through models of evaporative condensers at the International Heating & Air Conditioning Exposition in Philadelphia Jan. 26-29.

Four standard sizes of the new Flexi-Tower cover the entire capacity-range from 10 to 206 tons, it was noted. Featuring "a new concept in engineering," the Flexi-Tower capacity can be varied over a wide range without any mechanical changes to the tower, the company said.

"A CASE OF COOL JUDGMENT"



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DRINKMASTER
STAINLESS STEEL
CUBER—COOLER.**

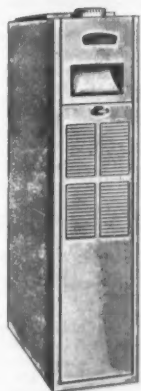
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- 2, 3, 5 TON AIR CONDITIONING



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GAS LIGHTS



- 51 BASIC MODELS GAS SPACE AND WALL HEATERS
- NEW THRU-THE-WALL HEATER.



- SIZES RANGE FROM 10,000-75,000 BTU
- CIRCULATORS, RECESSED WALL HEATERS, CLAYBACKS, GAS LOGS



QUALITY SINCE 1891

FOR CATALOG WRITE

CHATTANOOGA ROYAL COMPANY
CHATTANOOGA 6, TENNESSEE

Servicing Automobile Air Conditioners

(Vol. 3)

BY C. DALE MERICLE

INTERNATIONAL

International Automotive
Air Conditioning, Inc.
1927 S.W. First Ave.
Fort Lauderdale, Fla.

International automobile units, produced in 1957 and 1958, are under-dash systems following the conventional arrangement of mounting the condenser in front of the car radiator, the compressor on the engine with a drive through a magnetic clutch which is thermostatically controlled, and the evaporator case assembly suspended beneath the dash.

A standard compressor and magnetic clutch are employed. A drier and sight glass are provided in the International system. They are located in the engine compartment.

Evaporator case assembly includes the evaporator coil itself, thermostatic expansion valve, fan, adjustable air outlets, and the controls.

Control arrangement consists of an adjustable thermostat which cycles the magnetic clutch and compressor in response to the temperature setting as well as permitting the system to be turned off.

Blower speed is controlled by three pushbuttons to give low, medium, and high-speed operation.

Service Hints

Evacuating: The manufacturer recommends the use of a separate vacuum pump for evacuating a system following initial installation or opening for repairs.

Charging: International systems should be charged through the low side with refrigerant in the vapor state. Maximum charge is 2½ lbs. of Refrigerant-12.

Trouble Shooting: Service procedures common to under-dash units employing a thermostatically controlled magnetic clutch will apply to International air conditioners.

PATENTS

Week of Oct. 14

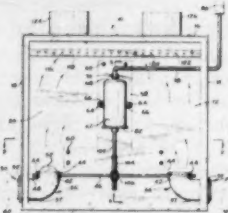
(Continued)

2,856,130. ROTARY PISTON MACHINE, ESPECIALLY FOR USE AS A COMPRESSOR. Mohamed Ibrahim Fawzi, Cairo, Egypt.



1. A rotary pump comprising a casing having a plurality of substantially cylindrical, but laterally interconnected bores therein, having parallel axes, a plurality of rotors having parallel rotary axes adapted to cooperate with each other and each rotatably mounted within one of said bores. . . .

2,856,131. THERMOSTAT CONTROL AIR DISTRIBUTING UNIT. John F. Conlan, New York, N. Y.



1. An air distribution apparatus comprising a rectangular-shaped housing having warm and cool air inlets in respectively opposite side walls thereof and outlets in another of its walls, elbow pipes in the housing connected at one end of said inlets, damper means in the other end of said elbow pipes, means movably mounted within the housing connecting the respective damper means for conjoint operation thereof. . . .

At Heating & Air Conditioning Show

Tube Manifold To Show Full Filter-Drier Line; Elgen Mfg. Promises New Line of Regulators

N. TONAWANDA, N. Y.—The complete line of TMC filter-driers including the newly-added ¾-ton size will be on display along with TMC liquid receivers, receiver-driers, refrigeration mufflers, 132-cu. in. disposable refrigerant containers, and other TMC products at the Tube Manifold Corp. booth at the Philadelphia heating and air conditioning show Jan. 26-29.

"One of the features will be the first showing of the TMC filter-drier for ¾-ton systems which is smaller than a golf ball due to the high adsorptive efficiency of the Linde molecular sieve," the company said. "The four other sizes range up to 15 tons' capacity with the largest size as small as a baseball." Also on display will be TMC liquid receivers available in sizes up to 36-in. lengths by 8-in. diameters.

LONG ISLAND CITY, N. Y.—Elgen Mfg. Corp. here has announced the development of a new line of damper and quadrant regulators.

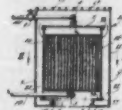
This line will be shown at the International Heating & Air Conditioning Exposition in Philadelphia Jan. 26-29.

The manufacturer stated that the new damper and quadrant regulators offer effective methods of controlling dampers to prevent rattles and air leakage. A complete line ranges from ¼-in. damper regulator sets to ½-in. quadrant damper regulator sets.

AT YOUR WHOLESALE KESCO AUTOMATIC CONDENSATE WATER DISPOSAL PUMPS MODELS FOR ALL AIR CONDITIONERS ICE CUBE BINS DRINKING FOUNTAINS Mfg. & Guaranteed by Kesco Products EST. 1944 P.O. Box 84 SPRINGFIELD GARDENS 13, N. Y.

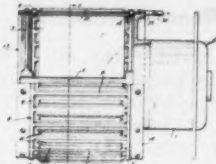


2,856,161. HEAT TRANSFER APPARATUS. Edwin E. Flynn, Grand Rapids, Mich.



In a heat transfer apparatus, a vertically disposed outer housing having a rectangular shape and including a plurality of flat side walls, said side walls all being of the same size, a bottom wall provided with a central opening, said opening being circular in formation and being defined by a cylindrical vertically disposed wall section which has its upper end terminating in a horizontally disposed wall section. . . .

2,856,162. HEAT EXCHANGER. Richard F. Adams, Goshen, Ind., assignor to Olin Mathieson Chemical Corp., East Alton, Ill.



1. A heat exchanger for a centrifugal fluid medium comprising a tube-shaped

Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

panel at least one end of which is shaped to surround a central opening for intake of said medium. . . .

2,856,163. REFRIGERATOR CONDENSER. John Sidak and Harold Ernest Briesemeister, Duluth, Minn., assignors, by means assignments, to Illinois McGraw Electric Co., Macomb, Ill.



1. In combination a resiliently flexible tubing assembly, a wall on which said tubing assembly is to be mounted, holding means for holding said assembly against said wall, said tubing assembly including generally parallel tube runs traversing said wall, each of a plurality of said runs. . . . (To Be Continued)

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WANTED. ADDITIONAL lines of equipment—coils—air conditioners, refrigeration equipment, grills, compressors, condensers etc. As manufacturer's representative in western Michigan. Now have unit heaters, gas conversion burners, small boilers. Two representatives, both men with years experience in air-conditioning and refrigeration with major manufacturer. WILMOTS, 1067 Bridge St., N. W., Grand Rapids 4, Michigan.

SALES MANAGEMENT—College graduate engineer highly qualified in all the merchandising facets of our industry, with over 15 years of experience, available for stable position in the far west. Training and experience in applied, packaged and heat pumps; ideally suited for regional office, large distributor or contractor. BOX A6167, Air Conditioning, Heating & Refrigeration News.

POSITIONS AVAILABLE

SALES ENGINEER for engineered type air conditioning contract sales to industrial and larger commercial. High potential concentrated territory in Eastern Pennsylvania. No over night travel. Fine community in which to live. Carrier distributors with best reputation in territory; excellent engineering, construction, and service departments; superior physical plant. Unusual opportunity for man who can aggressively find and close sales on quality engineering basis. Write outlining experience, earnings, and enclose picture. AIR ENGINEERS, Eighth & St. Paul Streets, Fullerton, Pennsylvania.

WANTED MEN to sell the Frankell hermetic compressor opener direct to air conditioning and refrigeration service dealers. Men presently selling other products to this field. Machine in use throughout the world. FRANKELL MANUFACTURING CO., INC., 1074 Home Street, New York 59, N. Y.

MANUFACTURER'S AGENT—Territories still available for "live wire" manufacturing agent, anxious to cash in on a growing market in a substantial manner. The newest latest line of combined heating, cooling and ventilating equipment for hot and chilled water. Line includes fan coil units, Chill-A-Trons (water chillers) and accessories, grilles, filters and controls. Our half century of manufacturing experience in heat transfer products gives you a background of reliability and quality that puts you in every Architect and Engineer's office. Write now requesting territory, or stop and see us at the 14th International Heating and Air Conditioning Exposition in Philadelphia, January 26th to January 29th. We will be exhibiting in booth #7. KRITZER PRODUCTS, Division of Peerless of America, Inc., Attention: Mr. M. W. Knight, 5800 North Pulaski Road, Chicago 46, Ill.

SALES MANAGER—Sales manager opening in air conditioning equipment manufacturing concern on the West Coast. Desire man with strong background in the industry. Product distributed on a national and international basis. Send resume including employment history, salary requirements, and recent snapshot. BOX A6166, Air Conditioning, Heating & Refrigeration News.

DISTRICT SALES engineer:—Must have experience selling commercial refrigeration coils and related items to wholesalers and O. E. M. accounts. Will work from office in Chicago. Salary and expenses. Give complete information in first letter. BOX A6168, Air Conditioning, Heating & Refrigeration News.

AGENTS WANTED for Mississippi, Alabama, Arkansas, Tennessee, North and South Carolina, Georgia and Florida to sell line of refrigeration to dealers and hotel and restaurant supply houses. Will not conflict with major lines. National advertising program. Give experience and area covered. BOX A6169, Air Conditioning, Heating & Refrigeration News.

EQUIPMENT WANTED

WANTED: MANUFACTURERS surplus, outdated or obsolete refrigeration items—expansion & water & shut-off valves, controls, relays, dehydrators, units, tubing fittings, etc. All sales on a cash close-out basis, large or small quantity. Write or call: COMMERCIAL CONTROLS CO., 257 East 3rd Street, New York 9, N. Y. ORegon 3-7210.

USED AND obsolete refrigeration compressors, condensing units, valve plates and parts for York, G. E., Par, Mills, Brunner, Carrier, Universal, and others. Furnish full description as to model number, horsepower, etc. UNITED REFRIGERATION CORPORATION, 514 W. 12th Street, Los Angeles 15, California.

EQUIPMENT FOR SALE

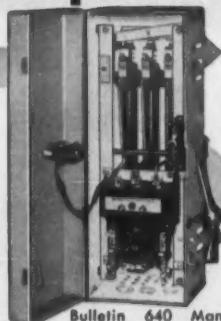
2 NEW Arctic Traveler Truck refrigeration units (crated)-1- one ton hydraulically driven (No. 100 NAHE)-1-two ton self contained gasoline engine driven (No. 200 UCA). Will sell to best offer. Contact R. J. CRAREN, 2000 Grand Avenue, Kansas City, Missouri. Phone VI 2-1077.

COMPLETE HIGHSIDE and low side refrigerator systems. P91 compressor 115 V. 50/60 cy. F-12 Evaporator: 15½" wide x 5¼" high x 12¼" deep, and static condenser, 8-88 compressor 115 volts 60 cy. Freon 12; Evaporator 11" wide x 11¼" deep x 9" high, and static condenser. Systems are charged and ready for installation. Sold \$36.00 each FOB Chicago, Illinois. Send for free catalog on money saving refrigeration values. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

MISCELLANEOUS

EXCEPTIONAL BUY of commercial refrigeration & air conditioning sales & service business. Best franchises, for sale by owner, everything you need. Walk in and go to work, trucks, tools, shop, warehouse, home if wanted. Will sacrifice for \$30,000. Must be seen to appreciate. In Michigan's Water Wonderland. BOX A6164, Air Conditioning, Heating & Refrigeration News.

Velvet Smooth Starting for Your Large Compressors



Bulletin 640 Manual Stepless Resistance Starter—ratings to 200 hp, 220-440-550 volts.

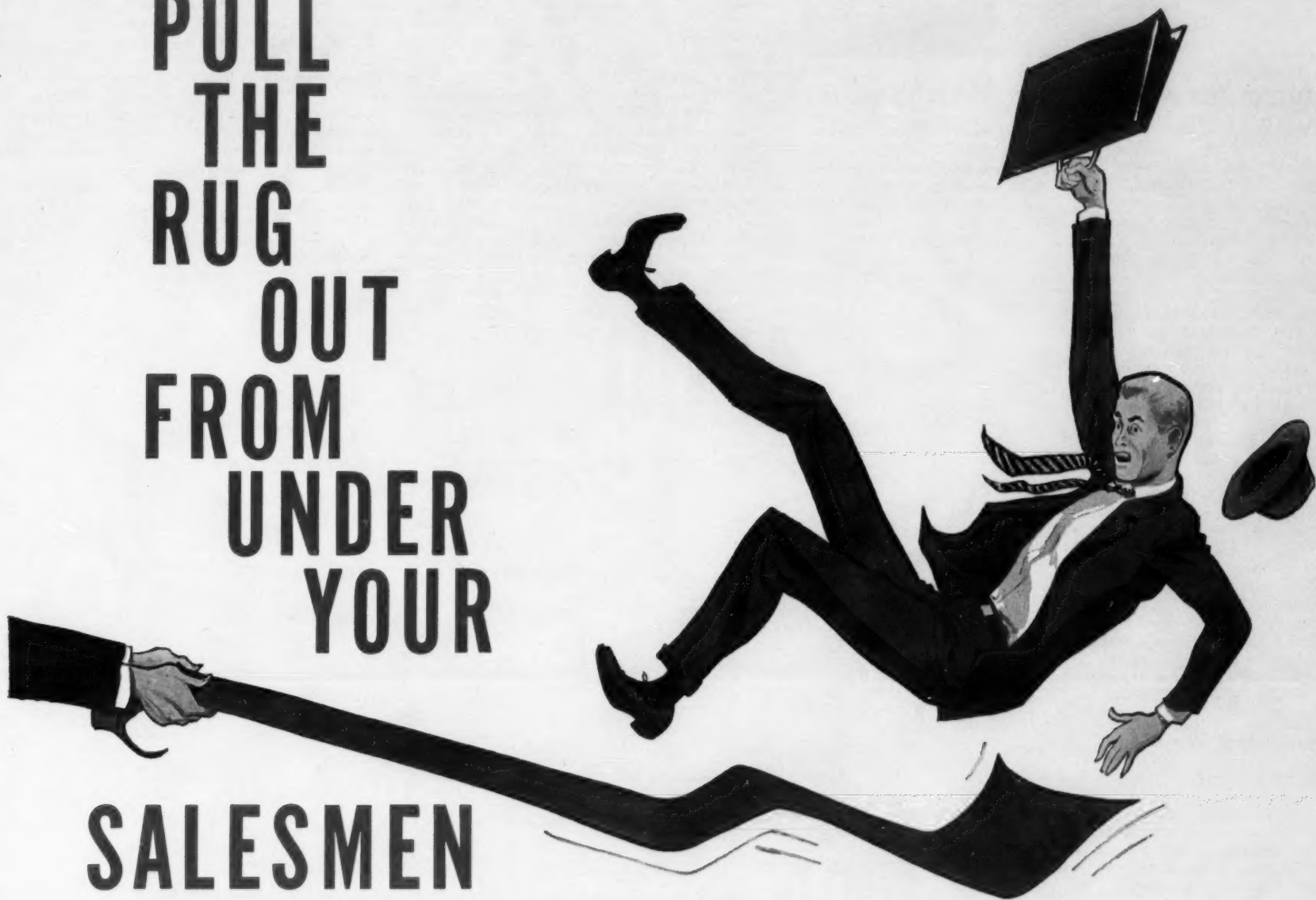
With the stepless acceleration of Allen-Bradley compression disc resistance starters, heavily loaded compressor motors are brought up to full speed without jerks or jolts to belts, gears, or driven machinery. Starting current inrush is limited to meet power company regulations and prevent lamp flicker. Operation is simple . . . lift operating lever slowly, and motor comes up to speed smoothly where full voltage is applied automatically—without circuit interruption. Send for descriptive Bulletin 640. Allen-Bradley Co., 1313 S. First St., Milwaukee 4, Wis. In Canada: Allen-Bradley Canada Ltd., Galt, Ont.



ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

HOW TO PULL THE RUG OUT FROM UNDER YOUR

SALESMEN



The day of *salesmanship* is here—and no one knows it better than your competitor! That's why your salesmen need every bit of backing they can get.

That's why failing to advertise *regularly* can amount to pulling the rug right out from under your salesmen, leaving them without the competitive advantage of having their sales story seen *repeatedly* by the men they must sell.

Every call your salesmen make is more important than ever. You can help make each call more effective by pre-selling prospective customers through industry-wide advertising in **AIR CONDITIONING, HEATING & REFRIGERATION NEWS**, the Weekly Newspaper of the Industry.

Use **NEWS** advertising regularly and consistently for maximum help to your salesmen.

**AIR CONDITIONING
HEATING & REFRIGERATION**

The Newspaper of the Industry

RESIDENTIAL — COMMERCIAL — INDUSTRIAL

NEWS

*The leading air conditioning publication
with highest paid circulation in the field.*



450 WEST FORT STREET
DETROIT 26, MICHIGAN

NEW YORK, 521 FIFTH AVE.,
MURRAY HILL 2-1928-9, ROBERT M. PRICE.

CHICAGO, 134 S. LA SALLE ST.,
FRANKLIN 2-8063, REX SMITH.

LOS ANGELES, 4710 CRENSHAW BLVD.,
AKMINSTER 2-9501, JUSTIN HANNON.

DETROIT, 450 W. FORT ST.,
WOODWARD 2-0924, AL SCHILDHAMMER.

AIR CURTAIN is feature of this combination display and storage cooler developed by Hussmann Refrigerator Co. of St. Louis. Refrigerated shelving display area is designed to show large volume of merchandise within easy reach of the customer.



Hussmann Air Curtain Merchandiser

(Concluded from Page 1, Col. 2)

According to Hussmann, the display area is designed primarily for large bulky perishables such as milk, bottle goods, and other items that ordinarily take up space in the regular dairy case. In most stores, the cooler will be used in conjunction with a refrigerated shelving dairy case, the company said.

"The Hussmann Air Curtain Cooler has four refrigerated adjustable shelves which provide 63 cu. ft. of display area in an 8-ft. model," the announcement continued.

"The bottom deck provides the capacity needed to double-deck half-gallon cartons of milk. It is adjustable to three positions—to adapt the display for a single row during low periods."

According to Hussmann, one refrigeration unit "provides a balanced, efficient system for both the display and storage areas. It is designed with a minimum of moving parts to keep maintenance low."

"Full length rolling doors be-

tween the storage and display areas make for easy stocking. There are no barriers to block the merchandise; every inch of display area is readily accessible.

"Filling the display from the rear also provides the advantage of first-in-first-out stocking."

NAPC Studies Formula For 'Reasonable' Retained Percentage

WASHINGTON, D. C. — A resolution calling for establishment of a reasonable retainage of percentage on construction work of 10% of the first 50% of the amount of the signed contract will be studied by a three-man committee of directors of the National Association of Plumbing Contractors.

The formula of retained percentages was worked out by an informal committee of contractor groups in Chicago.

The NAPC committee will report to the next board meeting, presumably in May.

The formula attempts to end "exorbitant" percentages written into contracts to be withheld from subcontractors on some construction work.

Johns-Manville Announces Purchase Of L.O.F. Glass Fibers of Toledo

NEW YORK CITY — Johns-Manville Corp. became a major competitor in the expanding, nationwide fiber glass industry recently as details of its acquisition of L.O.F. Glass Fibers Co. were completed.

Transfer of all assets and the going business of the Toledo firm to newly-organized Johns-Manville Fiber Glass, Inc., a wholly-owned subsidiary of Johns-Manville, has been accomplished, it was announced by A. R. Fisher, chairman and chief executive officer.

Johns-Manville Fiber Glass has taken over management of seven plants and a research and technical center at Waterville, Ohio, formerly operated by L.O.F. Glass Fibers.

R. H. Barnard has been elect-

ed president of Johns-Manville Fiber Glass, the same post he held with L.O.F. Glass Fibers. Francis H. May has been elected vice president and general manager.

The new J-M fiber glass organization began 1959 business as the tenth operating division of Johns-Manville.

The new Johns-Manville Fiber Glass Div. is a research, development, and production division only. It supplies fiber glass products to five other Johns-Manville divisions.

Sales organizations of these five divisions, augmented by the former sales organization of L.O.F. Glass Fibers, distribute J-M fiber glass products throughout the United States, Canada, and to foreign markets.

ALCO

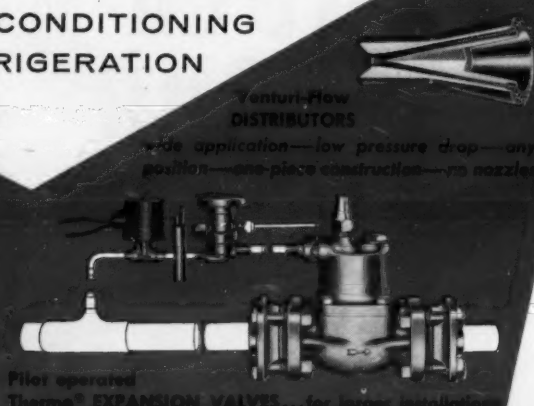
the one complete line of

REFRIGERANT CONTROLS

FOR AIR CONDITIONING AND REFRIGERATION



Thermostatic
EXPANSION VALVES
for all refrigerants
from 1/4 to 200 tons

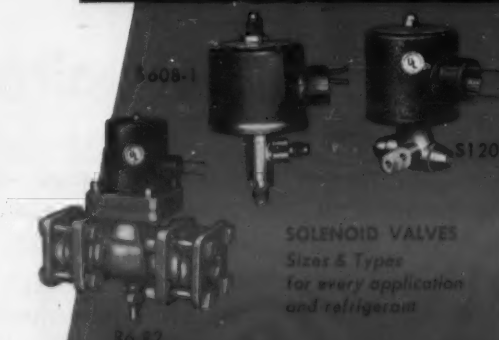


Pilot operated
Thermostatic EXPANSION VALVES...for larger installations

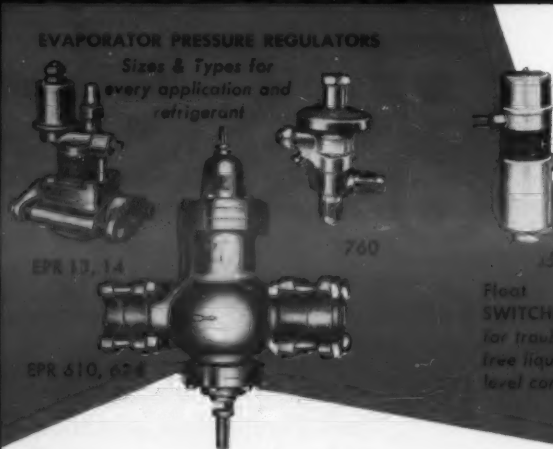
ALCO

VALVES • CONTROLS • STRAINERS • DISTRIBUTORS

FOR EVERY APPLICATION — DIRECT EXPANSION OR FLOODED SYSTEMS



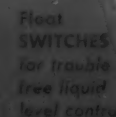
SOLENOID VALVES
Sizes & Types
for every application
and refrigerant



EVAPORATOR PRESSURE REGULATORS
Sizes & Types for
every application and
refrigerant



REFRIGERANT STRAINERS
maximum Screen area—Sizes
& Types for every application



Float
SWITCHES
for trouble
free liquid
level control

Use and Specify ALCO Controls
the one complete line designed and
engineered for efficient trouble free performance.

See your Alco Wholesaler —
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ALCO VALVE CO.

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The one complete line of refrigerant controls: Thermostatic Expansion Valves • Refrigerant Distributors
Solenoid Valves • Suction Line Regulators • Flooded Evaporator Controls and Reversing Valves

Sturtevant Div. Names Raffin

HYDE PARK, Mass. — John Raffin has been appointed manager, advertising and sales promotion, for Westinghouse Electric Corp.'s Sturtevant Div. here.

Besides executing ad and sales promotion programs for Sturtevant's air handling and air cleaning products, Raffin will also direct the publication and distribution of all catalogs, buying data, price lists, and direct mail programs.

Raffin previously served with General Electric's Aircraft Gas Turbine Div. as an advertising specialist and a market planning specialist.

Joseph Neal Joins Quincy Products

ADRIAN, Mich. — Joseph R. Neal, who has been factory manager and vice president of manufacturing at Wall Tube & Metal Products Co., Newport, Tenn., will join Quincy Products Co. on Jan. 26, it was announced by Maurice Stubnitz, president of Stubnitz Greene Corp. here.

Quincy Products, a manufacturer of condensers and evaporators for the refrigeration industry, is a division of Stubnitz Greene.

Neal, as plant manager, will have complete charge of the greatly increased facilities of the company at Quincy, Mich., Stubnitz stated.